

# **STIC Search Report**

## **Biotech-Chem Library**

**STIC Database Tracking Number: 167747**

**TO: Ralph J Gitomer**  
**Location: 3d65 / 3c18**  
**Art Unit: 1655**  
**Tuesday, October 25, 2005**

**Case Serial Number: 10/644808**

**From: Noble Jarrell**  
**Location: Biotech-Chem Library**  
**Rem 1B71**  
**Phone: 272-2556**

**Noble.jarrell@uspto.gov**

### **Search Notes**

=&gt; d his

(FILE 'HOME' ENTERED AT 13:41:32 ON 24 OCT 2005)

FILE 'HCAPLUS' ENTERED AT 13:41:44 ON 24 OCT 2005

L1 1 US2004047816/PN OR (US2003-644808# OR JP2002-247008#)/AP,PRN

FILE 'REGISTRY' ENTERED AT 13:42:39 ON 24 OCT 2005

FILE 'HCAPLUS' ENTERED AT 13:42:39 ON 24 OCT 2005

L2 TRA L1 1- RN : 4 TERMS

FILE 'REGISTRY' ENTERED AT 13:42:39 ON 24 OCT 2005

L3 4 SEA L2

FILE 'WPIX' ENTERED AT 13:42:45 ON 24 OCT 2005

L4 1 L1

=&gt; b hcap;d all l1

FILE 'HCAPLUS' ENTERED AT 13:43:09 ON 24 OCT 2005

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FILE COVERS 1907 - 24 Oct 2005 VOL 143 ISS 18

FILE LAST UPDATED: 23 Oct 2005 (20051023/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

L1 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:181774 HCAPLUS

DN 140:204862

ED Entered STN: 05 Mar 2004

TI Photocatalytic bleaching agent for teeth containing titanium oxide

IN Yamaguchi, Shin; Sekiguchi, Toshihiro; Ikushima, Keisuke; Akahane, Shoji;

Aoki, Koyu; Morikawa, Takeshi; Ohwaki, Takeshi; Taga, Yasunori

PA GC Corporation, Japan

SO Eur. Pat. Appl., 17 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM A61K007-20

ICS A61K007-22

CC 62-7 (Essential Oils and Cosmetics)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1393711	A2	20040303	EP 2003-18675	20030821 <--
	EP 1393711	A3	20040310		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,				

IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK  
 JP 2004083489 A2 20040318 JP 2002-247008 20020827 <--  
 US 2004047816 A1 20040311 US 2003-644808 20030821 <--  
 PRAI JP 2002-247008 A 20020827 <--

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 1393711	ICM	A61K007-20
	ICS	A61K007-22
EP 1393711	ECLA	A61K008/29; A61Q011/00 <--
JP 2004083489	FTERM	4C083/AB051; 4C083/AB172; 4C083/AB241; 4C083/AB242; 4C083/AB372; 4C083/AB411; 4C083/AB412; 4C083/AC061; 4C083/AC102; 4C083/AC111; 4C083/AC122; 4C083/AC132; 4C083/AD042; 4C083/BB60; 4C083/CC41; 4C083/DD23; 4C083/DD27; 4C083/DD28; 4C083/EE03; 4C083/EE35 <--
US 2004047816	NCL	424/053.000
	ECLA	A61K008/29; A61Q011/00 <--
AB	A method for bleaching teeth comprises steps of applying a solution containing nitrogen-doped titanium oxide powder on a surface of teeth, and irradiating the applied part with light to bleach the teeth based on a photocatalytic action thus produced. A bleaching agent for teeth suitable for carrying out the method comprises a solution containing nitrogen-doped titanium oxide powder, in which the nitrogen-doped titanium oxide is preferably a photocatalytic substance having a Ti-O-N structure having a titanium oxide crystalline lattice containing nitrogen and exhibiting a photocatalytic action in a visible light region, the bleaching agent contains preferably 0.01 to 5% by weight of the nitrogen-doped titanium oxide powder having a sp. surface area of from 10 to 500 m <sup>2</sup> /g, the solution contains water and/or an alc. as a solvent, and the bleaching agent further contains preferably 0.5 to 20% by weight of a thickener, 1 to 20% by weight of hydrogen peroxide, and 2 to 45% by weight of urea peroxide.	
ST	titanium oxide nitrogen photocatalysis bleaching dentifrice	
IT	Bleaching Bleaching agents Dentifrices (photocatalytic bleaching agent for teeth containing nitrogen-doped titanium oxide powder)	
IT	Catalysis (photochem.; photocatalytic bleaching agent for teeth containing nitrogen-doped titanium oxide powder)	
IT	124-43-6 7722-84-1, Hydrogen peroxide, biological studies 7727-37-9, Nitrogen, biological studies 13463-67-7, Titanium oxide, biological studies RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses) (photocatalytic bleaching agent for teeth containing nitrogen-doped titanium oxide powder)	

=> b reg;d ide 13 tot

FILE 'REGISTRY' ENTERED AT 13:43:14 ON 24 OCT 2005

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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 23 OCT 2005 HIGHEST RN 865836-54-0

DICTIONARY FILE UPDATES: 23 OCT 2005 HIGHEST RN 865836-54-0

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

Please note that search-term pricing does apply when conducting SmartSELECT searches.

\*\*\*\*\*  
\*  
\* The CA roles and document type information have been removed from \*  
\* the IDE default display format and the ED field has been added, \*  
\* effective March 20, 2005. A new display format, IDERL, is now \*  
\* available and contains the CA role and document type information. \*  
\*  
\*\*\*\*\*

Structure search iteration limits have been increased. See HELP SLIMITS for details.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

L3 ANSWER 1 OF 4 REGISTRY COPYRIGHT 2005 ACS on STN

RN 13463-67-7 REGISTRY

ED Entered STN: 16 Nov 1984

CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)

OTHER NAMES:

CN 1120ZS95A8

CN 1385RN59

CN 1500D

CN 234DA

CN 500HD

CN 63B1 White

CN A 100

CN A 110P

CN A 160

CN A 190

CN A 200

CN A 200 (pigment)

CN A 330

CN A 330 (pigment)

CN A-Fil Cream

CN A-FN 3

CN Aerolyst 7710

CN Aerolyst 7711

CN Aerosil P 25

CN Aerosil P 25S6

CN Aerosil P 27

CN Aeroxide P 25

CN AF-E 3D

CN AK 15

CN AK 15 (pigment)

CN AM 100

CN Amperit 780.0

CN AMT 100

CN AMT 102

CN AMT 600

CN AT 02

CN AUF 0015S

CN Austiox R-CR 3

CN B 101

CN B 101 (pigment)

CN BA-PW 25

CN Bayer R-FD 1

CN Bayertitan A

CN Bayertitan AN 3

CN Bayertitan R-FD 1  
CN Bayertitan R-FK 21  
CN Bayertitan R-FK-D  
CN Bayertitan R-KB 2  
CN Bayertitan R-KB 3  
CN Bayertitan R-KB 4  
CN Bayertitan R-KB 5  
CN Bayertitan R-KB 6  
CN Bayertitan R-U 2  
CN Bayertitan R-U-F  
CN Bayertitan R-V-SE 20

ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for  
DISPLAY

AR 51745-87-0

DR 494848-07-6, 494848-23-6, 494851-77-3, 494851-98-8, 552316-51-5,  
12000-59-8, 12701-76-7, 12767-65-6, 12789-63-8, 1309-63-3, 1344-29-2,  
55068-84-3, 55068-85-4, 62338-64-1, 97929-50-5, 101239-53-6, 98084-96-9,  
37230-92-5, 37230-94-7, 37230-95-8, 37230-96-9, 39320-58-6, 39360-64-0,  
39379-02-7, 100292-32-8, 116788-85-3, 185323-71-1, 185828-91-5,  
188357-76-8, 188357-79-1, 195740-11-5, 221548-98-7, 224963-00-2,  
246178-32-5, 252962-41-7

MF O2 Ti

CI COM

SR CA

LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BIOBUSINESS, BIOSIS,  
BIOTECHNO, CA, CABA, CANCERLIT, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS,  
CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHM, CSNB, DDFU, DETHERM\*,  
DIOGENES, DIPPR\*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT,  
ENCOMPPAT2, HSDB\*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK\*,  
MSDS-OHS, NIOSHTIC, PDLCOM\*, PIRA, PROMT, RTECS\*, SCISEARCH, TOXCENTER,  
TULSA, ULIDAT, USAN, USPAT2, USPATFULL, VTB

(\*File contains numerically searchable property data)

Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)

O=Ti=O

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

141466 REFERENCES IN FILE CA (1907 TO DATE)

2155 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

141682 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 2 OF 4 REGISTRY COPYRIGHT 2005 ACS on STN

RN 7727-37-9 REGISTRY

ED Entered STN: 16 Nov 1984

CN Nitrogen (8CI, 9CI) (CA INDEX NAME)

OTHER NAMES:

CN Diatomic nitrogen

CN Dinitrogen

CN Molecular nitrogen

CN Nitrogen (N2)

CN Nitrogen gas

CN Nitrogen nutrition (plant)

CN Nitrogen-14

FS 3D CONCORD

DR 778548-56-4, 745765-07-5, 794449-54-0, 161728-27-4, 156457-45-3,  
93037-13-9, 263005-65-8

MF N2

CI COM

LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BIOBUSINESS, BIOSIS,  
BIOTECHNO, CA, CABA, CANCERLIT, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS,  
CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHM, CSNB, DDFU, DETHERM\*,

DIOGENES, DIPPR\*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT,  
ENCOMPPAT2, GMELIN\*, HSDB\*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK\*,  
MSDS-OHS, NIOSHTIC, PDLCOM\*, PIRA, PROMT, RTECS\*, SPECINFO, TOXCENTER,  
TULSA, ULIDAT, USAN, USPAT2, USPATFULL, VTB

(\*File contains numerically searchable property data)

Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)

N  
|||  
N

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

284531 REFERENCES IN FILE CA (1907 TO DATE)

12408 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

284800 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 3 OF 4 REGISTRY COPYRIGHT 2005 ACS on STN

RN 7722-84-1 REGISTRY

ED Entered STN: 16 Nov 1984

CN Hydrogen peroxide (H2O2) (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Hydrogen peroxide (8CI)

OTHER NAMES:

CN Adeka Super EL

CN Albone

CN Albone 35

CN Albone DS

CN Anti-Keim 50

CN Asepticper

CN Baquashock

CN CIX

CN Crestal Whitestrips

CN Crystacide

CN Dentasept

CN Deslime LP

CN Hioxyl

CN Hipox

CN Hybrite

CN Hydrogen dioxide

CN Inhibine

CN Lensan A

CN Metrokur

CN Mirasept

CN NSC 19892

CN Odosat D

CN Opalescence Xtra

CN Oxigenal

CN Oxydol

CN Oxyfull

CN Oxysept

CN Oxysept I

CN Pegasyl

CN Perhydrol

CN Perone

CN Peroxaan

CN Peroxclean

CN Quasar Brite

CN Select Bleach

CN Superoxol

CN T-Stuff  
CN Xtra White  
FS 3D CONCORD  
DR 8007-30-5, 66554-50-5, 37355-84-3, 218625-72-0  
MF H2 O2  
CI COM  
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BIOBUSINESS, BIOSIS,  
BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN,  
CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU,  
DETERM\*, DIOGENES, DIPPR\*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2,  
ENCOMPPAT, ENCOMPPAT2, GMELIN\*, HSDB\*, IFICDB, IFIPAT, IFIUDB, IPA,  
MEDLINE, MRCK\*, MSDS-OHS, NIOSHTIC, PDLCOM\*, PIRA, PROMT, PS, RTECS\*,  
SCISEARCH, TOXCENTER, TULSA, ULIDAT, USAN, USPAT2, USPATFULL, VETU, VTB  
(\*File contains numerically searchable property data)  
Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*  
(\*\*Enter CHEMLIST File for up-to-date regulatory information)

HO-OH

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

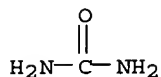
89835 REFERENCES IN FILE CA (1907 TO DATE)  
783 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
89940 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L3 ANSWER 4 OF 4 REGISTRY COPYRIGHT 2005 ACS on STN  
RN 124-43-6 REGISTRY  
ED Entered STN: 16 Nov 1984  
CN Urea, compd. with hydrogen peroxide (H2O2) (1:1) (9CI) (CA INDEX NAME)  
OTHER CA INDEX NAMES:  
CN Hydrogen peroxide (H2O2), compd. with urea (1:1) (9CI)  
CN Hydrogen peroxide, compd. with urea (1:1) (8CI)  
CN Urea, compd. with H2O2 (6CI, 7CI)  
CN Urea, compd. with hydrogen peroxide (1:1) (8CI)  
OTHER NAMES:  
CN Carbamide peroxide  
CN Colgate Platinum  
CN Colgate Simply White  
CN Contrast PM  
CN Debrox  
CN Exterol  
CN Gly-oxide  
CN Hydrogen peroxide-urea adduct (1:1)  
CN Hydrogen peroxide-urea compound (1:1)  
CN Hydroperit  
CN Hydroperite  
CN Hyperol  
CN Insta-Brite  
CN Karisma  
CN NG 10  
CN NG 10 (bleaching agent)  
CN Nite-White  
CN NSC 24852  
CN Nupro Gold  
CN Opalescence  
CN Opalescence Quick  
CN Ortizon  
CN Percarbamid  
CN Percarbamide  
CN Perfecta Trio  
CN Perhydrit  
CN Quik Start

CN Thenardol  
 CN Urea dioxide  
 CN Urea hydrogen peroxide  
 CN Vivastyle  
 CN Whiteness  
 CN Whiteness Super  
 DR 12263-76-2, 12772-89-3, 37211-55-5  
 MF C H4 N2 O . H2 O2  
 CI COM  
 LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN\*, BIOBUSINESS, BIOSIS, CA,  
 CANCERLIT, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST,  
 CSCHEM, CSNB, DDFU, DIOGENES, DRUGU, EMBASE, GMELIN\*, IFICDB, IFIPAT,  
 IFIUDB, IPA, MEDLINE, MRCK\*, MSDS-OHS, PHAR, PIRA, PROMT, TOXCENTER,  
 USAN, USPAT2, USPATFULL  
 (\*File contains numerically searchable property data)  
 Other Sources: EINECS\*\*, NDSL\*\*, TSCA\*\*  
 (\*\*Enter CHEMLIST File for up-to-date regulatory information)  
  
 CM 1  
  
 CRN 7722-84-1  
 CMF H2 O2

HO—OH

CM 2  
  
 CRN 57-13-6  
 CMF C H4 N2 O



1195 REFERENCES IN FILE CA (1907 TO DATE)  
 7 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 1195 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
 17 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> b wpix;d all l4 tot  
 FILE 'WPIX' ENTERED AT 13:43:22 ON 24 OCT 2005  
 COPYRIGHT (C) 2005 THE THOMSON CORPORATION

FILE LAST UPDATED: 19 OCT 2005 <20051019/UP>  
 MOST RECENT DERWENT UPDATE: 200567 <200567/DW>  
 DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> FOR A COPY OF THE DERWENT WORLD PATENTS INDEX STN USER GUIDE,  
 PLEASE VISIT:  
[http://www.stn-international.de/training\\_center/patents/stn\\_guide.pdf](http://www.stn-international.de/training_center/patents/stn_guide.pdf) <<<

>>> FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES, SEE  
<http://thomsonderwent.com/coverage/latestupdates/> <<<

>>> FOR INFORMATION ON ALL DERWENT WORLD PATENTS INDEX USER  
 GUIDES, PLEASE VISIT:  
<http://thomsonderwent.com/support/userguides/> <<<

>>> NEW! FAST-ALERTING ACCESS TO NEWLY-PUBLISHED PATENT  
 DOCUMENTATION NOW AVAILABLE IN DERWENT WORLD PATENTS INDEX



FIRST VIEW - FILE WPIFV.

FOR FURTHER DETAILS: <http://www.thomsonderwent.com/dwpifv> <<<

>>> THE CPI AND EPI MANUAL CODES HAVE BEEN REVISED FROM UPDATE 200501.

PLEASE CHECK:

<http://thomsonderwent.com/support/dwpioref/reftools/classification/code-revision/>

FOR DETAILS. <<<

'BIX BI,ABEX' IS DEFAULT SEARCH FIELD FOR 'WPIX' FILE

L4 ANSWER 1 OF 1 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN  
 AN 2004-258887 [25] WPIX  
 DNC C2004-101205  
 TI Bleaching teeth by applying solution containing nitrogen-deeped titanium  
 oxide powder and irradiating the applied part with light to bleach the  
 teeth by photocatalytic action.  
 DC D21 E16 E36 J04 P32  
 IN AKAHANE, S; AOKI, K; IKUSHIMA, K; MORIKAWA, T; OHWAKI, T; SEKIGUCHI, T;  
 TAGA, Y; YAMAGUCHI, S  
 PA (GCDE) GC CORP; (GCDE) GC KK; (TOYW) TOYOTA CHUO KENKYUSHO KK  
 CYC 34  
 PI EP 1393711 A2 20040303 (200425)\* EN 17 A61K007-20  
 R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV  
 MC MK NL PT RO SE SI SK TR  
 JP 2004083489 A 20040318 (200425) 17 A61K007-16  
 US 2004047816 A1 20040311 (200425) A61K007-20 <--  
 AU 2003236473 A1 20040318 (200450) A61K007-20  
 ADT EP 1393711 A2 EP 2003-18675 20030821; JP 2004083489 A JP 2002-247008  
 20020827; US 2004047816 A1 US 2003-644808 20030821; AU  
 2003236473 A1 AU 2003-236473 20030826  
 PRAI JP 2002-247008 20020827  
 IC ICM A61K007-16; A61K007-20  
 ICS A61C005-00; A61K007-22  
 AB EP 1393711 A UPAB: 20040418  
 NOVELTY - Teeth are bleached by applying a bleaching agent which is a  
 solution containing nitrogen-deeped titanium oxide powder, on a surface of  
 the teeth; and irradiating the applied part with visible light to bleach  
 the teeth by photocatalytic action.  
 USE - Bleaching teeth.  
 ADVANTAGE - The method removes pigments deposited on teeth  
 (coloration and discoloration of teeth). The bleaching agent exhibits high  
 bleaching effect with visible light.  
 Dwg.0/0  
 FS CPI GMPI  
 FA AB; DCN  
 MC CPI: D08-A; E10-A13B2; E31-H05; E35-K02; J04-E01

=> b home

FILE 'HOME' ENTERED AT 13:43:26 ON 24 OCT 2005

=>

=> d his full

(FILE 'HOME' ENTERED AT 14:32:57 ON 24 OCT 2005)

FILE 'HCAPLUS' ENTERED AT 14:34:18 ON 24 OCT 2005

L1 1 SEA ABB=ON PLU=ON US2004047816/PN OR (US2003-644808# OR JP2002-247008#)/AP,PRN

FILE 'REGISTRY' ENTERED AT 14:34:25 ON 24 OCT 2005

FILE 'HCAPLUS' ENTERED AT 14:34:25 ON 24 OCT 2005

L2 TRA L1 1- RN : 4 TERMS

FILE 'REGISTRY' ENTERED AT 14:34:26 ON 24 OCT 2005

L3 4 SEA ABB=ON PLU=ON L2

FILE 'WPIX' ENTERED AT 14:34:31 ON 24 OCT 2005

L4 1 SEA ABB=ON PLU=ON US2004047816/PN OR (US2003-644808# OR JP2002-247008#)/AP,PRN

FILE 'WPIX' ENTERED AT 15:16:34 ON 24 OCT 2005

E TITANIUM OXIDE/CN

L5 3 SEA ABB=ON PLU=ON ("TITANIUM OXIDE"/CN OR "TITANIUM OXYNITRID E"/CN)

SEL SDCN L5

L6 12415 SEA ABB=ON PLU=ON (RABL01/DCN OR RA813V/DCN OR R01966/DCN)

SEL SDRN L5

L7 37328 SEA ABB=ON PLU=ON 1966/DRN

L8 41585 SEA ABB=ON PLU=ON 1966/DRN OR R01966/DCN OR E35-K02/MC OR C01G023/IPC

L9 43181 SEA ABB=ON PLU=ON TITANIUM/BIX,BI,ABEX (1A) (DIOXIDE/BIX,BI,AB EX OR OXIDE/BIX,BI,ABEX)

L10 30603 SEA ABB=ON PLU=ON TIO2/BIX,BI,ABEX OR O2TI/BIX,BI,ABEX

L11 13385 SEA ABB=ON PLU=ON (E31-H03 OR E31-H05)/MC

E 1738/DRN

E E3+ALL

L12 15917 SEA ABB=ON PLU=ON 1738/DRN OR R01738/DCN

E NITROGEN/CN

L13 19 SEA ABB=ON PLU=ON (NITROGEN/CN OR "NITROGEN (13)"/CN OR

"NITROGEN (14)"/CN OR "NITROGEN (N13)"/CN OR "NITROGEN (N14)"/CN OR "NITROGEN 13-LABELED"/CN OR "NITROGEN BORON SELENIUM COMPLEX"/CN OR "NITROGEN DIFLUORIDE"/CN OR "NITROGEN DIOXIDE"/CN OR "NITROGEN DIOXIDE (SUPERSEDED)"/CN OR "NITROGEN MUSTARD"/CN OR "NITROGEN MUSTARD N-OXIDE"/CN OR "NITROGEN N14"/CN OR "NITROGEN PENTOXIDE"/CN OR "NITROGEN RADICAL"/CN OR "NITROGEN TRICHLORIDE"/CN OR "NITROGEN TRIFLUORIDE"/CN OR "NITROGEN- (13)"/CN OR "NITROGEN- (14)"/CN OR "NITROGEN- (N13)"/CN OR "NITROGEN- (N14)"/CN OR "NITROGEN- (N15)"/CN OR NITROGEN-15/C N OR NITROGEN-BORON-SELENIUM-COMPLEX/CN OR NITROGEN-DIOXIDE/CN OR NITROGEN-DOPED-SILICON-OXIDE/CN OR NITROGEN-N14/CN)

SEL SDCN L13

L14 13414 SEA ABB=ON PLU=ON (R01902/DCN OR RACNSQ/DCN OR RAF4QX/DCN OR RAGIFF/DCN OR RA3KWE/DCN OR RA42B9/DCN OR RA8BLE/DCN OR RA9NDF/DCN OR RA9QPV/DCN OR R00055/DCN OR R01738/DCN OR R04069/DCN OR R09707/DCN OR R13410/DCN OR R14402/DCN OR R16866/DCN OR R18705/DCN OR R20149/DCN)

SEL SDRN L13

L15 23860 SEA ABB=ON PLU=ON (1902/DRN OR 0055/DRN OR 1738/DRN)

L16 1083 SEA ABB=ON PLU=ON (L6 OR L7 OR L8) AND (L11 OR L12 OR L14 OR L15)

L17 546 SEA ABB=ON PLU=ON L16 AND M782/M0,M1,M2,M3,M4,M5,M6

L18 29 SEA ABB=ON PLU=ON L17 AND (N14#/M0,M1,M2,M3,M4,M5,M6 OR (E11-P OR K08-H?)/MC)

L19 49343 SEA ABB=ON PLU=ON (P91? OR P23)/M0,M1,M2,M3,M4,M5,M6 OR (A61K006 OR A61K007-16 OR A61K007-18 OR A61K007-20 OR A61K007-2 2 OR A61K007-24 OR A61K007-26 OR A61K007-28 OR A61K007-30 OR

A61C)/IPC

L20 1 SEA ABB=ON PLU=ON L18 AND L19

L21 2 SEA ABB=ON PLU=ON L17 AND L19

L22 5 SEA ABB=ON PLU=ON L16 AND L19

L23 5 SEA ABB=ON PLU=ON (L20 OR L21 OR L22)

SEL AN 1-2 4-5 L23

L24 4 SEA ABB=ON PLU=ON (1988-341408/AN OR 1995-311365/AN OR 2002-713678/AN OR 2004-258887/AN) AND L23

L25 3 SEA ABB=ON PLU=ON (D08-A03 OR D08-A04 OR D08-A05 OR D08-A06 OR D08-B08 OR B12-M02A OR C12-M02A OR A12-V03C? OR B12-L03 OR C12-L03 OR B14-N06 OR C14-N06)/MC AND L16

L26 22 SEA ABB=ON PLU=ON (L9 OR L10) AND (NITROGEN/BIX,BI,ABEX OR N2/BIX,BI,ABEX) (W) (DEEP?/BIX,BI,ABEX OR DOPE?/BIX,BI,ABEX)

L27 1 SEA ABB=ON PLU=ON L26 AND (N14#/M0,M1,M2,M3,M4,M5,M6 OR (E11-P OR K08-H?)/MC)

L28 2 SEA ABB=ON PLU=ON L26 AND (L19 OR L25)

L29 5 SEA ABB=ON PLU=ON (L24 OR L27 OR L28)

FILE 'REGISTRY' ENTERED AT 15:45:40 ON 24 OCT 2005

L30 1 SEA ABB=ON PLU=ON L3 AND TI/ELS

L31 1 SEA ABB=ON PLU=ON L3 AND NITROGEN/CN

L32 STR

L33 29 SEA SSS SAM L32

L34 647 SEA SSS FUL L32

SAV TEM GIT808F0/A L34

FILE 'HCAPLUS' ENTERED AT 15:49:52 ON 24 OCT 2005

L35 QUE ABB=ON PLU=ON L30

L36 QUE ABB=ON PLU=ON TIO2 OR TITANIUM (1A) (OXIDE OR DIOXIDE)

E TITANIUM DIOXIDE/CT

E E3+ALL

L37 149077 SEA ABB=ON PLU=ON TITANIUM DIOXIDE+NT/CT

L38 QUE ABB=ON PLU=ON NITROGEN OR N2

E NITROGEN/CT

E E3+ALL

L39 287111 SEA ABB=ON PLU=ON NITROGEN+NT/CT

L40 QUE ABB=ON PLU=ON L31

L41 9538 SEA ABB=ON PLU=ON (L35 OR L36 OR L37) AND (L38 OR L39 OR L40)

FILE 'HCAPLUS' ENTERED AT 15:52:32 ON 24 OCT 2005

L42 282 SEA ABB=ON PLU=ON L34

E DENTIFRICE/CT

E E4+ALL

L43 8954 SEA ABB=ON PLU=ON DENTIFRICES/CT

E ORAL HYGIENE/CT

E E3+ALL

E HYGIENE/CT

E E3+ALL

L44 165 SEA ABB=ON PLU=ON HYGIENE+NT/CT (L) ORAL

E FLOSS/CT

E DENTALFLOSS/CT

E DENTAL FLOSS/CT

E E3+ALL

E BLEACHING/CT

E E3+ALL

L45 22951 SEA ABB=ON PLU=ON BLEACHING+OLD,NT/CT

E MOUTHWASH/CT

E E4+ALL

L46 3711 SEA ABB=ON PLU=ON MOUTHWASHES+OLD/CT

L47 11 SEA ABB=ON PLU=ON (L41 OR L42) AND (L43 OR L44 OR L45 OR L46)

L48 7 SEA ABB=ON PLU=ON L47 AND (PY<=2002 OR AY<=2002 OR PRY<=2002)

L49 11 SEA ABB=ON PLU=ON (L47 OR L48)

=> b wpix

FILE 'WPIX' ENTERED AT 16:02:13 ON 24 OCT 2005  
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FILE LAST UPDATED: 24 OCT 2005 <20051024/UP>  
 MOST RECENT DERWENT UPDATE: 200568 <200568/DW>  
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 PLEASE VISIT:  
[http://www.stn-international.de/training\\_center/patents/stn\\_guide.pdf](http://www.stn-international.de/training_center/patents/stn_guide.pdf) <<<

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 FOR FURTHER DETAILS: <http://www.thomsonderwent.com/dwpifv> <<<

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 PLEASE CHECK:  
<http://thomsonderwent.com/support/dwpioref/reftools/classification/code-revision/>  
 FOR DETAILS. <<<  
 'BIX BI,ABEX' IS DEFAULT SEARCH FIELD FOR 'WPIX' FILE

=> d all abeq abex tech l29 tot

L29 ANSWER 1 OF 5 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN

AN 2004-654926 [64] WPIX

DNC C2004-234351

TI Dental bleaching agent set for removing coloration and discoloration of  
 teeth, comprises first component for previously attaching to tooth surface  
 comprising organic solvent.

DC D21 E37

IN AKAHANE, S; AOKI, K; IKUSHIMA, K; MORIKAWA, T; OHWAKI, T; SEKIGUCHI, T;  
 TAGA, Y; YAMAGUCHI, S

PA (GCDE) GC CORP; (GCDE) GC KK; (TOYW) TOYOTA CHUO KENKYUSHO KK

CYC 35

PI EP 1457200 A1 20040915 (200464)\* EN 15 A61K007-20 <--  
 R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV  
 MC MK NL PL PT RO SE SI SK TR

US 2004180008 A1 20040916 (200464) A61K007-20 <--

JP 2004292429 A 20041021 (200469) 13 A61K007-20 <--

AU 2004201016 A1 20040930 (200480) A61K007-20 <--

ADT EP 1457200 A1 EP 2004-5130 20040304; US 2004180008 A1 US 2004-791783  
 20040304; JP 2004292429 A JP 2004-15336 20040123; AU 2004201016 A1 AU  
 2004-201016 20040305

PRAI JP 2003-62839 20030310

IC ICM A61K007-20

ICS A61K006-00; A61K007-22

AB EP 1457200 A UPAB: 20041006

NOVELTY - A dental bleaching agent set comprises:

(1) component for previously attaching to tooth surface comprising  
 organic solvent containing titanium oxide powder,  
 nitrogen doped titanium oxide  
 powder, and titanium oxynitride powder having photocatalytic activities;  
 and

(2) component for contacting to tooth surface comprising a compound  
 that produces hydrogen peroxide in water, thickener, and carrier.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a  
 dental bleaching method comprising attaching to the teeth surface the  
 first and second components of the inventive bleaching agent set.

USE - Used for removing coloration and discoloration of teeth (claimed) resulting from deposition of pigments on the teeth.

ADVANTAGE - The invention is able to remove coloration and discoloration of teeth.

Dwg.0/0

FS CPI

FA AB; DCN

MC CPI: D08-B08; E05-S; E10-A13B2; E31-E; E35-K02; E35-K04

TECH UPTX: 20041006

TECHNOLOGY FOCUS - INORGANIC CHEMISTRY - Preferred Compositions: The titanium oxide powder, nitrogen doped titanium oxide powder, or titanium oxynitride powder is 0.001-30 wt.%, and carried ceramics on its surface in an island form, acicular form, or mesh form. The first component further contains metal oxide, metal salt, or metal powder (0.001-10 wt.%), and 0.5-20 wt.% thickener. It contains water. Preferred Properties: The titanium oxynitride powder has titanium-oxygen-nitrogen structure containing nitrogen in its crystalline lattices, and exhibits photocatalytic activities on visible spectral region.

L29 ANSWER 2 OF 5 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN

AN 2004-258887 [25] WPIX

DNC C2004-101205

TI Bleaching teeth by applying solution containing nitrogen-deeped titanium oxide powder and irradiating the applied part with light to bleach the teeth by photocatalytic action.

DC D21 E16 E36 J04 P32

IN AKAHANE, S; AOKI, K; IKUSHIMA, K; MORIKAWA, T; OHWAKI, T; SEKIGUCHI, T; TAGA, Y; YAMAGUCHI, S

PA (GCDE) GC CORP; (GCDE) GC KK; (TOYW) TOYOTA CHUO KENKYUSHO KK

CYC 34

PI EP 1393711 A2 20040303 (200425)\* EN 17 A61K007-20 <--  
R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV  
MC MK NL PT RO SE SI SK TR

JP 2004083489 A 20040318 (200425) 17 A61K007-16 <--

US 2004047816 A1 20040311 (200425) A61K007-20 <--

AU 2003236473 A1 20040318 (200450) A61K007-20 <--

ADT EP 1393711 A2 EP 2003-18675 20030821; JP 2004083489 A JP 2002-247008 20020827; US 2004047816 A1 US 2003-644808 20030821; AU 2003236473 A1 AU 2003-236473 20030826

PRAI JP 2002-247008 20020827

IC ICM A61K007-16; A61K007-20

ICS A61C005-00; A61K007-22

AB EP 1393711 A UPAB: 20040418

NOVELTY - Teeth are bleached by applying a bleaching agent which is a solution containing nitrogen-deeped titanium oxide powder, on a surface of the teeth; and irradiating the applied part with visible light to bleach the teeth by photocatalytic action.

USE - Bleaching teeth.

ADVANTAGE - The method removes pigments deposited on teeth (coloration and discoloration of teeth). The bleaching agent exhibits high bleaching effect with visible light.

Dwg.0/0

FS CPI GMPI

FA AB; DCN

MC CPI: D08-A; E10-A13B2; E31-H05; E35-K02; J04-E01

ABEX UPTX: 20040418

EXAMPLE - As shown in JP-A-2002-154823, commercially available titanium dioxide powder and urea were mixed and agitated, and then subjected to a heat treatment at 450 degrees C for 30 minutes to produce powder A having a specific surface area of 280 m2/g. Platinum was carried on the surface of the powder A by the method shown in JP-A-2001-205103 to produce powder A-Pt. A bleaching agent was prepared comprising (weight%) Powder A-Pt (0.1), urea

peroxide (20), glycerin (35), silica fine powder (6), and diethylene glycol (balance). It was coated on a pretreated tooth (maxilla right 3) and irradiated with visible light. The irradiation period was 5 minutes per once, and the distance from the surface of the tooth to the irradiator was 1 cm. Application of fresh bleaching agent for teeth and irradiation with light were repeated with an interval of 15-20 minutes. The effect of bleaching was evaluated. The patient was especially satisfied after an accumulated irradiation time of 30 minutes.

TECH

UPTX: 20040418

TECHNOLOGY FOCUS - INORGANIC CHEMISTRY - Preferred Component: The nitrogen-deeped titanium oxide is a photocatalytic substance having a Ti-O-N structure having a titanium crystalline lattice containing nitrogen and exhibiting a photocatalytic action in visible light. It contains titanium oxide containing no nitrogen on the outer surface. It has a surface that carries a charge separation substance. The solution contains water and/or polyhydric alcohol as solvent.

Preferred Composition: The bleaching agent comprises 0.01-5 wt.% nitrogen-deeped titanium oxide powder, 0.5-20 wt.% thickener, 1-20 wt.% hydrogen peroxide and 2-45 wt.% urea peroxide.

Preferred Property: The nitrogen-deeped titanium oxide has a specific surface area of 10-500 m<sup>2</sup>/g.

TECHNOLOGY FOCUS - CERAMICS AND GLASS - Preferred Component: The nitrogen-deeped titanium oxide comprises a ceramic carried in an island form, needle form or mesh form.

L29 ANSWER 3 OF 5 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN

AN 2002-713678 [77] WPIX

CR 2002-713696 [77]

DNN N2002-562997 DNC C2002-202452

TI Use of bioactive glass as abrasive used in treatment of dental hard tissue, and pulp disorders such as dental caries, pain, tooth wear, discoloration, dentine hyper-sensitivity and dental tissue congenital malformations.

DC D21 L01 P32 P61

IN COOK, R J; HENCH, L L; THOMPSON, I D; WATSON, T F; HENCH, L; THOMPSON, I

PA (UNLO) IMPERIAL COLLEGE INNOVATIONS LTD; (UNLO) KINGS COLLEGE LONDON

CYC 101

PI WO 2002078645 A1 20021010 (200277)\* EN 38 A61K006-06 <--  
 RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ  
 NL OA PT SD SE SL SZ TR TZ UG ZM ZW  
 W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK  
 DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR  
 KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT  
 RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM  
 ZW

US 2003008263 A1 20030109 (200311) A61C005-00 &lt;--

EP 1372574 A1 20040102 (200409) EN A61K006-06 &lt;--

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT  
 RO SE SI TR

AU 2002251213 A1 20021015 (200432) A61K006-06 &lt;--

EP 1372574 B1 20050518 (200538) EN A61K006-06 &lt;--

R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DE 60204217 E 20050623 (200543) A61K006-06 &lt;--

ADT WO 2002078645 A1 WO 2002-GB1512 20020328; US 2003008263 A1 Provisional US  
 2001-281809P 20010406, US 2002-109011 20020329; EP 1372574 A1 EP  
 2002-720143 20020328, WO 2002-GB1512 20020328; AU 2002251213 A1 AU  
 2002-251213 20020328; EP 1372574 B1 EP 2002-720143 20020328, WO  
 2002-GB1512 20020328; DE 60204217 E DE 2002-00204217 20020328, EP  
 2002-720143 20020328, WO 2002-GB1512 20020328

FDT EP 1372574 A1 Based on WO 2002078645; AU 2002251213 A1 Based on WO  
 2002078645; EP 1372574 B1 Based on WO 2002078645; DE 60204217 E Based on  
 EP 1372574, Based on WO 2002078645

PRAI US 2001-281809P 20010406; GB 2001-8115 20010330  
 IC ICM A61C005-00; A61K006-06  
 ICS A61C003-025; A61K006-00; B24C001-00  
 AB WO 200278645 A UPAB: 20050707  
 NOVELTY - A bioactive glass is used in the manufacture of an air abrasive agent which is used in the treatment of dental hard tissue and pulpal disorders.  
 DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for a method of treating a dental hard tissue and pulp disorder which involves using bioactive glass as an air abrasive agent.  
 USE - For use in the treatment of dental caries, dental disorder such as tooth hypersensitivity, dental hard tissue and pulpal disorders such as dental caries, pain, tooth wear, discoloration, dentine hyper-sensitivity and dental tissue congenital malformations (claimed).  
 ADVANTAGE - The bioactive glass are beneficially used as an abrasive agent (cutting and/or surface peening agent) for cutting of both tooth enamel and dentine and in the delivery of the bioactive glass.  
 Dwg.0/8  
 FS CPI GMPI  
 FA AB  
 MC CPI: D08-A04; L01-A01; L01-A04; L01-A05; L01-A07A; L01-L07  
 ABEX UPTX: 20021129  
 EXAMPLE - Five freshly extracted roots were washed in normal saline and subjected to air abrasive cutting using a bioactive glass. The treated roots were evaluated for the properties. The result showed that the bioactive glass could remove softened decayed dentine from a root surface when used as an air abrasive, in a short period of time.  
 TECH UPTX: 20021129  
 TECHNOLOGY FOCUS - INORGANIC CHEMISTRY - Preferred Component: The bioactive glass comprises a source of silica (SiO) or Si(OH)2 and a source of calcium oxide (CaO) and/or phosphorus pentoxide (P2O5). The bioactive glass further comprises a hardening agent and/or a softening agent. The softening agent is selected from sodium, potassium, calcium, magnesium, boron, aluminum, phosphorus, nitrogen, fluorine and the hardening agent is titanium oxide.  
 The bioactive glass comprises 1-100% of SiO2 or Si(OH)2, 0-60% of CaO, 0-60% P2O5, 0-45% of sodium oxide (Na2O), 0-45% of potassium oxide (K2O) and 0-40% of magnesium oxide (MgO).  
 The bioactive glass is obtained by the sol-gel method or melt method.  
 The bioactive glass comprises 44-86 (45) wt.% SiO2, 4-46 (24.5) wt.% of CaO and 3-15 (6) wt.% of phosphorus pentoxide.  
 Preferred Properties: The bioactive glass has a Vickers Hardness of at least that of tooth enamel, preferably 70-3000, preferably 70-300. The bioactive glass particles are substantially (non)spherical and have a diameter of 10-500 microns.  
 The bioactive glass particles are capable of cutting through tooth enamel.  
 L29 ANSWER 4 OF 5 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN  
 AN 1995-311365 [40] WPIX  
 DNC C1995-138634  
 TI Multiple part photocurable ionomeric cement system - comprises an aq paste of ionomer and an organic paste contg reactive filler.  
 DC A14 A96 D21 E19  
 IN KUEHN, R D; MITRA, S B; WANG, B  
 PA (MINN) MINNESOTA MINING & MFG CO  
 CYC 60  
 PI WO 9522956 A1 19950831 (199540)\* EN 66 A61K006-083 <--  
 RW: AT BE CH DE DK ES FR GB GR IE IT KE LU MC MW NL OA PT SD SE SZ UG  
 W: AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU JP KE KG  
 KP KR KZ LK LR LT LU LV MD MG MN MW MX NL NO NZ PL PT RO RU SD SE  
 SI SK TJ TT UA UZ VN  
 AU 9519181 A 19950911 (199550) A61K006-083 <--  
 EP 748201 A1 19961218 (199704) EN A61K006-083 <--  
 R: DE FR GB IT  
 JP 09509392 W 19970922 (199748) 53 C04B012-00  
 ADT WO 9522956 A1 WO 1995-US1828 19950209; AU 9519181 A AU 1995-19181

19950209; EP 748201 A1 EP 1995-911713 19950209, WO 1995-US1828 19950209;  
 JP 09509392 W JP 1995-522376 19950209, WO 1995-US1828 19950209  
 FDT AU 9519181 A Based on WO 9522956; EP 748201 A1 Based on WO 9522956; JP  
 09509392 W Based on WO 9522956  
 PRAI US 1994-202839 19940228  
 REP EP 323120; EP 510211; EP 554890; US 5063257; US 5154762; US 5227413; WO  
 9312759  
 IC ICM A61K006-083; C04B012-00  
 ICS C04B028-28  
 AB WO 9522956 A UPAB: 19951128  
 A multiple part photocurable ionomeric cement system comprises: (a) an aqueous  
 paste of a photocurable ionomer; and (b) an organic paste containing reactive  
 filler. The ionomer has sufficient pendant ionic gps. to undergo a setting  
 reaction in the presence of (b) and H<sub>2</sub>O, and sufficient pendent  
 polymerisable gps. to enable the resulting mixture to be cured by exposure  
 to radiant energy.

Also claimed are the following: (1) a method of preparing a cured  
 ionomer cement having high strength and low opacity by mixing (a) and (b)  
 and exposing to radiant energy; and (2) a cured ionomer cement prepared by  
 exposing to radiant energy a photocurable cement system.

USE - The cement system is a component of a kit for treatment of  
 teeth (claimed). The cements can be used as dental restoratives, liners,  
 bases, cements, sealants and as dental or orthodontic adhesives.

ADVANTAGE - Paste: paste formulations of glass ionomer cement  
 materials exhibit properties which are improved to those of like materials  
 provided in known powder: liquid format. The cement system has a Diametral  
 Tensile strength which is greater than 10% higher than the described like  
 cement system (claimed). When exposed to radiant energy, the system has a  
 visual opacity of less than 0.4 (claimed).

Dwg.0/0

FS CPI

FA AB; DCN

MC CPI: A08-R01; A11-C02B; A12-V02B; D08-A02; E05-L02A; E05-L02B; E07-A02D;  
 E10-A04B; E10-A09B4; E10-A13A2; E10-A18B; E10-D03C; E10-E04G;  
 E10-E04K; E31-E; E31-H05; E31-P03; E31-P05D;  
 E35-K02; E35-L; E35-U04; E35-V

L29 ANSWER 5 OF 5 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN

AN 1988-341408 [48] WPIX

DNC C1988-150908

TI Metallic double oxide spherical particles production - by hydrolysing mixture of  
 metal alkoxide(s) and metallic salts to form gel, heating, etc..

DC A96 D21 E32 E33 L02

PA (TOKU) TOKUYAMA SODA KK

CYC 1

PI JP 63252909 A 19881020 (198848)\* 8

JP 05075686 B 19931021 (199345) 8 C01B013-36

ADT JP 63252909 A JP 1987-85757 19870409; JP 05075686 B JP 1987-85757 19870409

FDT JP 05075686 B Based on JP 63252909

PRAI JP 1987-85757 19870409

IC C01G023-00; C01G025-00; C10B013-18; C10B033-18

ICM C01B013-36

ICS C01B033-18; C01G023-00; C01G025-00; C10B013-18; C10B033-18

AB JP 63252909 A UPAB: 19930923

At least two kinds of metal alkoxides (a) or a mixture of metal alkoxides  
 and metallic salts (b) is hydrolysed to form gel, which is heated at a  
 temperature higher than 400 deg.C below its fusing temperature. The resultant metallic  
 oxide powders are dispersed in a gas (c) and passed through a heating zone  
 whose temperature is higher than the m.pt. of the metallic oxide powders.

Pref. (a) are zirconium tetrapropoxide, tetraethylsilicate, aluminium  
 tri-sec-butoxide and others. (b) are pref. calcium nitrate, aluminium  
 nitrate, and other. (c) is air, O<sub>2</sub>, N<sub>2</sub>, H<sub>2</sub> or Ar.

ADVANTAGE - Spherical double oxide powders having a good transparency  
 to visible light can be obtd., which consist of e.g., silica, titania or  
 zirconia and are used for mixing with photosetting monomers like acrylic  
 acid to form cement composite for dental service.



0/2  
 FS CPI  
 FA AB; DCN  
 MC CPI: A04-F04; A08-R; A12-V02B; D08-A02; E31-P01; E31-P02C; E35-K01; E35-L;  
 L02-A02

ABEQ JP 93075686 B UPAB: 19931220

At least two kinds of metal alkoxides (a) or a mixt. of metal alkoxides and metallic salts (b) is hydrolysed to form gel, which is heated at a temp. higher than 400 deg.C below its fusing temp. The resultant metallic oxide powders are dispersed in a gas (c) and passed through a heating zone whose temp. is higher than the m.pt. of the metallic oxide powders.

Pref. (a) are zirconium tetrapropoxide, tetraethylsilicate, aluminium tri-sec-butoxide and others, (b) are pref. calcium nitrate, aluminium nitrate, and other. Pref. (c) is air, O<sub>2</sub>, N<sub>2</sub>, H<sub>2</sub> or Ar.

ADVANTAGE - Spherical double oxide powders having a good transparency to visible light can be obtd., which consist of e.g., silica, titania or zirconia and are used for mixing with photosetting monomers like acrylic acid to form cement composite for dental service. (J63252909-A)

=> b hcap

FILE 'HCAPLUS' ENTERED AT 16:02:42 ON 24 OCT 2005

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FILE COVERS 1907 - 24 Oct 2005 VOL 143 ISS 18

FILE LAST UPDATED: 23 Oct 2005 (20051023/ED)

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=> d all hitstr 149 tot

L49 ANSWER 1 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:34455 HCAPLUS

DN 142:133463

ED Entered STN: 14 Jan 2005

TI Grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products.

IN Nie, Li; Maningat, Clodualdo; Bassi, Sukh Dev

PA USA

SO U.S. Pat. Appl. Publ., 9 pp.

CODEN: USXXCO

DT Patent

LA English

IC ICM A23J001-00

INCL 426656000

CC 17-6 (Food and Feed Chemistry)

Section cross-reference(s): 62

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI US 2005008759 A1 20050113 US 2003-617565 20030711  
 WO 2005007749 A1 20050127 WO 2004-US22383 20040712

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,  
 CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,  
 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
 LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,  
 NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,  
 TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,  
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,  
 EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,  
 SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,  
 SN, TD, TG

PRAI US 2003-617565 A2 20030711

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2005008759	ICM	A23J001-00
	INCL	426656000
US 2005008759	NCL	426/656.000
	ECLA	A23K001/00B1; A23K001/00B2; A23K001/16G; A23K001/18N2; A23L001/24D; C08L089/00; C08L089/00+B6
WO 2005007749	ECLA	A23K001/00B1; A23K001/00B2; A23K001/16G; A23K001/18N2; A23L001/24D; C08L089/00; C08L089/00+B6

AB Shelf stabilizing agents including hydrolyzed protein, hydrolyzed protein  
 derivs., and hydrolyzed protein-emulsifier complexes improve the shelf  
 life of a pelletized grain protein-based resin formulation which can be  
 used in edible products such as pet chew toys and snack foods. The  
 pellets may be prepared well in advance of further processing, such as by  
 injection molding and extrusion, which provides shaped articles of the  
 edible or biodegradable variety.

ST grain hydrolyzed protein stabilizer feed pet chew toy

IT Fatty acids, biological studies  
 RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)  
 (C12-22; grain hydrolyzed protein-based formulations for stabilizing  
 pelletized grain protein-based edible resin products)

IT Fatty acids, biological studies  
 RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)  
 (and derivs., lubricants; grain hydrolyzed protein-based formulations  
 for stabilizing pelletized grain protein-based edible resin products)

IT Fats and Glyceridic oils, biological studies  
 RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)  
 (animal, hydrolyzates; grain hydrolyzed protein-based formulations for  
 stabilizing pelletized grain protein-based edible resin products)

IT Meat  
 (beef, liver, hydrolyzed; grain hydrolyzed protein-based formulations  
 for stabilizing pelletized grain protein-based edible resin products)

IT Glycine max  
 (bran; grain hydrolyzed protein-based formulations for stabilizing  
 pelletized grain protein-based edible resin products)

IT Deodorants (personal)  
 (breath fresheners; grain hydrolyzed protein-based formulations for  
 stabilizing pelletized grain protein-based edible resin products)

IT Meat  
 (chicken, liver, hydrolyzed; grain hydrolyzed protein-based  
 formulations for stabilizing pelletized grain protein-based edible  
 resin products)

IT Emulsifying agents  
 (complexes with hydrolyzed grain proteins; grain hydrolyzed  
 protein-based formulations for stabilizing pelletized grain  
 protein-based edible resin products)

IT Glutens  
 RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)  
 (corn meal, filler; grain hydrolyzed protein-based formulations for  
 stabilizing pelletized grain protein-based edible resin products)

IT Glutens

RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)  
 (corn, hydrolyzed; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)

IT Food  
 (dyes; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)

IT Monoglycerides  
 RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)  
 (esters and ethoxylates; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)

IT Fatty acids, biological studies  
 RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)  
 (esters, propylene glycol mono- and diesters; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)

IT Alkaline earth salts  
 RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)  
 (fatty acid salts, mold release agents; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)

IT Glycine max  
 (fiber; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)

IT Dietary fiber  
 Wheat flour  
 (filler; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)

IT Carbonates, biological studies  
 RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)  
 (fillers; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)

IT Liver  
 (fish hydrolyzed; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)

IT Oryza sativa  
 (flour and meal, filler; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)

IT Dyes  
 (food; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)

IT Coloring materials  
 Dentifrices  
 Extrusion, nonbiological  
 Feed additives  
 Fillers  
 Foaming agents  
 Food preservatives  
 Lubricants  
 Oryza sativa  
 Pigments, nonbiological  
 Plasticizers  
 Reducing agents  
 Solanum tuberosum  
 Stabilizing agents  
 Wheat bran  
 (grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)

IT Carbon black, biological studies  
 Carotenes, biological studies  
 Chlorophylls, biological studies  
 Diglycerides  
 Fatty acids, biological studies  
 Polyoxyalkylenes, biological studies  
 Protein hydrolyzates  
 RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)  
 (grain hydrolyzed protein-based formulations for stabilizing pelletized

- grain protein-based edible resin products)
- IT Anhydrides
  - RL: RCT (Reactant); RACT (Reactant or reagent)
  - (grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Oligosaccharides, reactions
  - RL: RCT (Reactant); RACT (Reactant or reagent)
  - (grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Resins
  - RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)
  - (grain protein-based; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Proteins
  - RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)
  - (grain; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Zea mays
  - (grits, fiber; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Proteins
  - RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)
  - (heat-denatured, fillers; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Temperature effects, biological
  - (heat; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Collagens, biological studies
  - Gelatins, biological studies
  - Lecithins
    - RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)
    - (hydrolyzates; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Lecithins
  - RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)
  - (hydrolyzed and derivs., lubricants; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Syrups (sweetening agents)
  - (hydrolyzed starch, hydrogenated; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Blood plasma
  - Egg, poultry
  - Egg white
  - Egg yolk
  - Fish
    - (hydrolyzed; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Caseins, biological studies
  - RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)
  - (hydrolyzed; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Molding
  - (injection; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Bisulfites
  - RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)
  - (metabisulfites, reducing agents; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Parting materials
  - (mold-release agents; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Feed
  - (pet chews; grain hydrolyzed protein-based formulations for stabilizing

- pelletized grain protein-based edible resin products)
- IT Meat  
(pork, liver, hydrolyzed; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Vegetable  
(powdered, fillers; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Oryza sativa  
Solanum tuberosum  
(protein, hydrolyzed; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Cereal (grain)  
(proteins and protein hydrolyzates; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Meat  
(proteins, hydrolyzed; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Bisulfites  
RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)  
(reducing agents; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Carbohydrates, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reducing sugars; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Flours and Meals  
(rice, filler; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Food  
(snack; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Proteins  
RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)  
(soybean, hydrolyzed; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Bran  
(soybean; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Organelle  
(starch granule; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Alkali metals, biological studies  
RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)  
(sulfites, reducing agents; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Fats and Glyceridic oils, biological studies  
RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)  
(vegetable, hydrolyzates; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Protein hydrolyzates  
RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)  
(wheat gluten, Midsol HWG 2009; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Glutens  
RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)  
(wheat, hydrolyzates, Midsol HWG 2009; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Glutens  
RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)  
(wheat, hydrolyzed; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)
- IT Protein hydrolyzates  
RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)

(whey; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)

IT 9005-25-8, Solka-Floc 90G, biological studies  
 RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)  
 (Solka-Floc 90G; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)

IT 9004-34-6, Cellulose, biological studies  
 RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)  
 (fibers; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)

IT 9005-25-8D, Starch, modified  
 RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)  
 (filler; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)

IT 124-38-9, Carbon dioxide, biological studies 127-40-2, Xanthophyll 144-55-8, Sodium bicarbonate, biological studies 471-34-1, Calcium carbonate, biological studies 1323-83-7, Distearin 5793-94-2, Calcium stearoyl-2-lactylate 7727-37-9, Nitrogen, biological studies 9004-53-9, Dextrin 9005-67-8, Polysorbate 60 13463-67-7, Titanium dioxide, biological studies 14807-96-6, Talc, biological studies 25383-99-7, Sodium stearoyl-2-lactylate 31566-31-1, Monostearin 68651-46-7, Indigo (dye) 155215-71-7, Panodan SDK 685108-81-0, Optimizor CHX H-base  
 RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)  
 (grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)

IT 75-21-8, Ethylene oxide, reactions 75-56-9, Propylene oxide, reactions 9050-36-6, Maltodextrin  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)

IT 557-04-0, Magnesium stearate 1592-23-0, Calcium stearate 6865-35-6, Barium stearate  
 RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)  
 (mold release agent; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)

IT 50-70-4, Sorbitol, biological studies 56-81-5, Glycerol, biological studies 57-13-6, Urea, biological studies 57-55-6, Propylene glycol, biological studies 69-65-8, Mannitol 112-27-6, Triethylene glycol 585-88-6, Maltitol 9002-89-5, Polyvinyl alcohol 25322-68-3, Polyethylene glycol 59113-36-9, Diglycerol  
 RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)  
 (plasticizer; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)

IT 52-90-4, L-Cysteine, biological studies 60-23-1, Cysteamine 60-24-2, Mercaptoethanol 7446-09-5, Sulfur dioxide, biological studies 7681-57-4, Sodium metabisulfite 10196-04-0, Ammonium sulfite  
 RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)  
 (reducing agent; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)

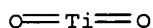
IT 57-11-4D, Stearic acid, alkaline earth salts  
 RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)  
 (release agents; grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)

IT 7727-37-9, Nitrogen, biological studies 13463-67-7, Titanium dioxide, biological studies  
 RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)  
 (grain hydrolyzed protein-based formulations for stabilizing pelletized grain protein-based edible resin products)

RN 7727-37-9 HCAPLUS  
 CN Nitrogen (8CI, 9CI) (CA INDEX NAME)

N  
|||  
N

RN 13463-67-7 HCAPLUS  
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)



L49 ANSWER 2 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 2004:1019882 HCAPLUS  
DN 141:427781  
ED Entered STN: 26 Nov 2004  
TI Cosmetic products containing at least one polymer based on monomers  
comprising nitrogen heterocycles  
IN Wood, Claudia; Schneider, Tanja; Baum, Pia  
PA BASF Aktiengesellschaft, Germany  
SO PCT Int. Appl., 81 pp.  
CODEN: PIXXD2  
DT Patent  
LA German  
IC ICM A61K007-075  
ICS A61K007-04; A61K007-48  
CC 62-4 (Essential Oils and Cosmetics)  
Section cross-reference(s): 38

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004100910	A1	20041125	WO 2004-EP5203	20040514
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10322152	A1	20041202	DE 2003-10322152	20030516
PRAI DE 2003-10322152	A	20030516		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2004100910	ICM	A61K007-075
	ICS	A61K007-04; A61K007-48
WO 2004100910	ECLA	A61K008/02F; A61K008/81R; A61K008/81R4; A61Q001/02; A61Q001/06; A61Q001/10; A61Q005/00; A61Q005/02; A61Q005/06; A61Q005/06D; A61Q005/10; A61Q011/00; A61Q015/00; A61Q017/04; A61Q019/00; A61Q019/10
DE 10322152	ECLA	A61K008/02F; A61K008/81R; A61K008/81R4; A61Q001/02; A61Q001/06; A61Q001/10; A61Q005/00; A61Q005/02; A61Q005/06; A61Q005/06D; A61Q005/10; A61Q011/00; A61Q015/00; A61Q017/04; A61Q019/00; A61Q019/10

AB The invention relates to a cosmetic product containing at least one polymer  
that can be obtained by radical polymerization of a,ss-ethylenically unsatd.  
comps. that resp. contain at least one nitrogenous heterocycle, in the  
presence of a polymer graft base. The invention also relates to the use  
of such polymers. Graft polymers were synthesized from polyethylene  
glycol, vinylpyrrolidone and vinylimidazole. The polymers were used as

ingredients in various cosmetic formulations. A makeup contained (weight/weight%): glyceryl stearate 1.70; cetyl alc. 1.70; ceteareth-6 1.70; Ceteareth-25 1.70; caprylic/capric triglyceride 5.20; mineral oil 5.20; preservative q.s.; propylene glycol 4.30; graft polymer 2.50; water 59.50; perfume q.s.; iron oxides 2.00; titanium dioxide 12.00.

- ST cosmetics graft polymer polyethylene glycol vinylpyrrolidone vinylimidazole
- IT Shaving preparations
  - (aerosol foams; cosmetic products containing at least one polymer based on monomers comprising nitrogen heterocycles)
- IT Cosmetics
  - (aerosols; cosmetic products containing at least one polymer based on monomers comprising nitrogen heterocycles)
- IT Shaving preparations
  - (aftershave; cosmetic products containing at least one polymer based on monomers comprising nitrogen heterocycles)
- IT Alcohols, biological studies
  - RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
  - (aliphatic, C1-C4; cosmetic products containing at least one polymer based on monomers comprising nitrogen heterocycles)
- IT Cosmetics
  - (cleansing; cosmetic products containing at least one polymer based on monomers comprising nitrogen heterocycles)
- IT Hair preparations
  - (conditioners; cosmetic products containing at least one polymer based on monomers comprising nitrogen heterocycles)
- IT Antifoaming agents
  - Antioxidants
  - Antiperspirants
  - Antistatic agents
  - Bleaching agents
  - Cosmetics
    - Dentifrices
  - Emulsifying agents
  - Gelation agents
    - Mouthwashes
  - Perfumes
  - Plasticizers
  - Preservatives
  - Shampoos
  - Sunscreens
  - Suntanning agents
  - Surfactants
  - Thickening agents
    - (cosmetic products containing at least one polymer based on monomers comprising nitrogen heterocycles)
- IT Collagens, biological studies
- Fats and Glyceridic oils, biological studies
- Fatty acids, biological studies
- Lipids, biological studies
- Paraffin oils
- Polysiloxanes, biological studies
- Protein hydrolyzates
- Soaps
- Waxes
  - RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
  - (cosmetic products containing at least one polymer based on monomers comprising nitrogen heterocycles)
- IT Cosmetics
  - (creams; cosmetic products containing at least one polymer based on monomers comprising nitrogen heterocycles)
- IT Hydrocarbons, biological studies
  - RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
  - (cyclic and non-cyclic; cosmetic products containing at least one polymer based on monomers comprising nitrogen heterocycles)



- IT Hair preparations  
(dyes, oxidative; cosmetic products containing at least one polymer based on monomers comprising nitrogen heterocycles)
- IT Hair preparations  
(dyes; cosmetic products containing at least one polymer based on monomers comprising nitrogen heterocycles)
- IT Cosmetics  
(emollients; cosmetic products containing at least one polymer based on monomers comprising nitrogen heterocycles)
- IT Cosmetics  
(emulsions; cosmetic products containing at least one polymer based on monomers comprising nitrogen heterocycles)
- IT Carboxylic acids, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(esters, C6-C30, with; cosmetic products containing at least one polymer based on monomers comprising nitrogen heterocycles)
- IT Cosmetics  
(eye liners; cosmetic products containing at least one polymer based on monomers comprising nitrogen heterocycles)
- IT Cosmetics  
(face packs; cosmetic products containing at least one polymer based on monomers comprising nitrogen heterocycles)
- IT Alcohols, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(fatty; cosmetic products containing at least one polymer based on monomers comprising nitrogen heterocycles)
- IT Hair preparations  
(fixatives; cosmetic products containing at least one polymer based on monomers comprising nitrogen heterocycles)
- IT Cosmetics  
(gels, glossy; cosmetic products containing at least one polymer based on monomers comprising nitrogen heterocycles)
- IT Hair preparations  
(gels, styling; cosmetic products containing at least one polymer based on monomers comprising nitrogen heterocycles)
- IT Bath preparations  
Cosmetics  
(gels; cosmetic products containing at least one polymer based on monomers comprising nitrogen heterocycles)
- IT Polymers, biological studies  
RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(graft; cosmetic products containing at least one polymer based on monomers comprising nitrogen heterocycles)
- IT Cosmetics  
(lipsticks; cosmetic products containing at least one polymer based on monomers comprising nitrogen heterocycles)
- IT Cosmetics  
(lotions; cosmetic products containing at least one polymer based on monomers comprising nitrogen heterocycles)
- IT Cosmetics  
(makeups; cosmetic products containing at least one polymer based on monomers comprising nitrogen heterocycles)
- IT Cosmetics  
(mascaras; cosmetic products containing at least one polymer based on monomers comprising nitrogen heterocycles)
- IT Cosmetics  
(moisturizers; cosmetic products containing at least one polymer based on monomers comprising nitrogen heterocycles)
- IT Hair preparations  
(mousses; cosmetic products containing at least one polymer based on monomers comprising nitrogen heterocycles)
- IT Cosmetics  
(nail lacquers; cosmetic products containing at least one polymer based on monomers comprising nitrogen heterocycles)
- IT Heterocyclic compounds

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(nitrogen, polymer components; cosmetic products containing at  
least one polymer based on monomers comprising nitrogen  
heterocycles)

IT Bath preparations  
(oils; cosmetic products containing at least one polymer based on monomers  
comprising nitrogen heterocycles)

IT Hair preparations  
(permanent wave; cosmetic products containing at least one polymer based on  
monomers comprising nitrogen heterocycles)

IT Polymerization  
(radical; cosmetic products containing at least one polymer based on  
monomers comprising nitrogen heterocycles)

IT Foams  
(shaving; cosmetic products containing at least one polymer based on  
monomers comprising nitrogen heterocycles)

IT Hair preparations  
(sprays; cosmetic products containing at least one polymer based on  
monomers comprising nitrogen heterocycles)

IT Hair preparations  
(styling; cosmetic products containing at least one polymer based on  
monomers comprising nitrogen heterocycles)

IT Cosmetics  
(suspensions, ointments, pastes; cosmetic products containing at least one  
polymer based on monomers comprising nitrogen heterocycles)

IT Cosmetics  
(tonics and skin peeling preps.; cosmetic products containing at least one  
polymer based on monomers comprising nitrogen heterocycles)

IT 333724-47-3P 525605-74-7P 525605-75-8P 525605-76-9P 527673-12-7P  
RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological  
study); PREP (Preparation); USES (Uses)  
(cosmetic products containing at least one polymer based on monomers  
comprising nitrogen heterocycles)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Kud, A; US 4904408 A 1990 HCAPLUS
- (2) Mueller, C; WO 03042264 A 2003 HCAPLUS
- (3) Nippon Catalytic Chem Ind; DE 10036713 A 2001 HCAPLUS
- (4) Papantoniou, C; US 4048301 A 1977 HCAPLUS

L49 ANSWER 3 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:924647 HCAPLUS

DN 142:225288

ED Entered STN: 03 Nov 2004

TI Toothpaste composition using natural mineral

IN Kim, Ji Hui

PA Human Tech Co., Ltd., S. Korea

SO Repub. Korean Kongkae Taeho Kongbo, No pp. given

CODEN: KRXXA7

DT Patent

LA Korean

IC ICM A61K007-16

CC 62-7 (Essential Oils and Cosmetics)

Section cross-reference(s): 53

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI KR 2002071514	A	20020913	KR 2001-11573	20010306 <--
PRAI KR 2001-11573		20010306	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
KR 2002071514	ICM	A61K007-16

AB A toothpaste composition comprising natural minerals such as SiO<sub>2</sub>, CaO, MgO, Fe<sub>2</sub>O<sub>3</sub> and the like is provided which is effective in the prevention and treatment of dental plaque on teeth, dental caries, periodontal disease

and gingivitis and enhances the person's immune system response and ability to resist bacterial infection in mouth that causes plaque or the like. This toothpaste composition contains 48 to 53% by weight of SiO<sub>2</sub>, 20 to 25% by weight of Al<sub>2</sub>O<sub>3</sub>, 0.1 to 0.2% by weight of Fe<sub>2</sub>O<sub>3</sub>, 0.17 to 0.23% by weight of TiO<sub>2</sub>, 0.01% by weight of CaO, 0.22 to 0.27% by weight of Na<sub>2</sub>O and 4.3 to 4.8% by weight of K<sub>2</sub>O as main components, 5.5 to 6.0% by weight of MnO, 1.8 to 2.3% by weight of CuO, 3.0 to 3.5% by weight of ZnO, 0.4 to 0.45% by weight of CoO, 0.65 to 0.7% by weight of MoO, 52 to 57% by weight of BO, 1.0 to 1.5% by weight of CrO, 0.9 to 1.0% by weight of NiO, 0.7 to 1.0% by weight of VO, 4.8 to 5.3% by weight of NO and 5.0 to 5.5% by weight of PO.

ST toothpaste compn natural mineral

IT Dentifrices

(toothpaste composition containing natural minerals)

IT Minerals, biological studies

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)

(toothpaste composition containing natural minerals)

IT 1305-78-8, Calcium oxide, biological studies 1307-96-6, Cobalt oxide, biological studies 1309-37-1, Iron trioxide, biological studies 1309-48-4, Magnesium oxide, biological studies 1313-59-3, Sodium oxide, biological studies 1313-99-1, Nickel oxide, biological studies 1317-38-0, Cupric oxide, biological studies 1344-28-1, Aluminum oxide, biological studies 1344-43-0, Manganese monoxide, biological studies 7631-86-9, Silica, biological studies 10102-43-9, Nitrogen oxide (NO), biological studies 12018-00-7, Chromium oxide (CrO) 12035-98-2, Vanadium oxide (VO) 12058-07-0, Molybdenum oxide (MoO) 12136-45-7, Potassium oxide, biological studies 13463-67-7, Titania, biological studies 14452-66-5, Phosphorus oxide (PO)  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)

(toothpaste composition containing natural minerals)

IT 13463-67-7, Titania, biological studies

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)

(toothpaste composition containing natural minerals)

RN 13463-67-7 HCAPLUS

CN Titanium oxide (TiO<sub>2</sub>) (8CI, 9CI) (CA INDEX NAME)

O=Ti=O

L49 ANSWER 4 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:849488 HCAPLUS

DN 142:10689

ED Entered STN: 18 Oct 2004

TI Gray water treatment and reuse

AU Li, Zifu

CS Bengbu, Peop. Rep. China

SO Hamburger Berichte zur Siedlungswasserwirtschaft (2004), 47, i-xv, 1-150  
CODEN: HBSIEY; ISSN: 0724-0783

PB Gesellschaft zur Foerderung der Forschung und Entwicklung der  
Umwelttechnologien an der Technischen Universitaet Hamburg-Harburg e. V.

DT Journal

LA German

CC 60-1 (Waste Treatment and Disposal)

Section cross-reference(s): 46, 61, 62

AB Options of regeneration of gray water (domestic wastewater without feces and urine) for reuse were investigated. A real and several synthetic gray waters were subjected to biol. treatment in a sequencing-batch reactor (SBR) process. The discharge values of the SBR - TOC 8-10 mg/L (<5 mg/L if ecol. household chems. were used only), N <5 mg/L, P 2-8 mg/L (<1 mg/L when using PO<sub>4</sub>-free detergents) - require further treatment for high-grade reuse. Low-rate sand filtration, microfiltration, nanofiltration, reverse osmosis, adsorption on activated C, photocatalytic oxidation (TiO<sub>2</sub>/UV-A radiation), and soil infiltration (for groundwater recharge) were tested and process combinations are proposed, e.g. of SBR process, microfiltration, plus reverse osmosis (with

utilization of the permeate as tap water and of the retentate for lower-grade purposes such as irrigation). Recommendations are derived with special respect to applications in China.

- ST domestic wastewater gray water treatment reuse
- IT Wastewater treatment  
(adsorption; options of regeneration of gray water (domestic wastewater without feces and urine) for reuse)
- IT Wastewater treatment  
(biol., sequencing batch reactor; options of regeneration of gray water (domestic wastewater without feces and urine) for reuse)
- IT Detergents  
(dishwashing; options of regeneration of gray water (domestic wastewater without feces and urine) for reuse)
- IT Wastewater treatment  
(filtration, sand; options of regeneration of gray water (domestic wastewater without feces and urine) for reuse)
- IT Bath preparations  
(gels; options of regeneration of gray water (domestic wastewater without feces and urine) for reuse)
- IT Detergents  
(laundry; options of regeneration of gray water (domestic wastewater without feces and urine) for reuse)
- IT Wastewater treatment  
(membrane filtration; options of regeneration of gray water (domestic wastewater without feces and urine) for reuse)
- IT Wastewater treatment  
(microfiltration; options of regeneration of gray water (domestic wastewater without feces and urine) for reuse)
- IT Wastewater treatment  
(nanofiltration; options of regeneration of gray water (domestic wastewater without feces and urine) for reuse)
- IT Dentifrices  
Electric conductivity  
Escherichia coli  
Recycling  
Shampoos  
Turbidity  
(options of regeneration of gray water (domestic wastewater without feces and urine) for reuse)
- IT Nitrates, processes  
Nitrites  
TOC (total organic carbon)  
RL: POL (Pollutant); REM (Removal or disposal); OCCU (Occurrence); PROC (Process)  
(options of regeneration of gray water (domestic wastewater without feces and urine) for reuse)
- IT Wastewater treatment  
(oxidation, catalytic, photochem.; options of regeneration of gray water (domestic wastewater without feces and urine) for reuse)
- IT Wastewater treatment  
(reverse osmosis; options of regeneration of gray water (domestic wastewater without feces and urine) for reuse)
- IT Wastewater treatment  
(soil filtration; options of regeneration of gray water (domestic wastewater without feces and urine) for reuse)
- IT 7723-14-0, Phosphorus, processes 7727-37-9, Nitrogen, processes 14798-03-9, Ammonium, processes  
RL: POL (Pollutant); REM (Removal or disposal); OCCU (Occurrence); PROC (Process)  
(options of regeneration of gray water (domestic wastewater without feces and urine) for reuse)

RE.CNT 173 THERE ARE 173 CITED REFERENCES AVAILABLE FOR THIS RECORD

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- IT 7727-37-9, Nitrogen, processes  
 RL: POL (Pollutant); REM (Removal or disposal); OCCU (Occurrence); PROC (Process)  
 (options of regeneration of gray water (domestic wastewater without feces and urine) for reuse)
- RN 7727-37-9 HCAPLUS
- CN Nitrogen (8CI, 9CI) (CA INDEX NAME)

N  
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 N

L49 ANSWER 5 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2004:753133 HCAPLUS  
 DN 141:265616  
 ED Entered STN: 16 Sep 2004  
 TI Dental bleaching agent set and the method for bleaching teeth  
 IN Yamaguchi, Shin; Sekiguchi, Toshihiro; Ikushima, Keisuke; Akahane, Shoji;  
 Aoki, Koyu; Morikawa, Takeshi; Ohwaki, Takeshi; Taga, Yasunori  
 PA GC Corporation, Japan  
 SO Eur. Pat. Appl., 15 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English



IC ICM A61K007-20  
ICS A61K007-22; A61K006-00  
CC 62-7 (Essential Oils and Cosmetics)  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1457200	A1	20040915	EP 2004-5130	20040304
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK				
	JP 2004292429	A2	20041021	JP 2004-15336	20040123
	US 2004180008	A1	20040916	US 2004-791783	20040304
PRAI	JP 2003-62839	A	20030310		

## CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
	EP 1457200	ICM	A61K007-20
		ICS	A61K007-22; A61K006-00
	EP 1457200	ECLA	A61K006/00; A61K008/22; A61K008/29; A61Q011/00
	JP 2004292429	FTERM	4C083/AB032; 4C083/AB172; 4C083/AB212; 4C083/AB241; 4C083/AB242; 4C083/AB332; 4C083/AB382; 4C083/AB411; 4C083/AB412; 4C083/AC102; 4C083/AC122; 4C083/AD042; 4C083/AD092; 4C083/BB55; 4C083/CC41; 4C083/DD23; 4C083/DD27; 4C083/DD50; 4C083/EE35
	US 2004180008	NCL	424/053.000
		ECLA	A61K006/00; A61K008/22; A61K008/29; A61Q011/00
AB	To eliminate a defect in conventional dental bleaching agent, that light for activating titanium oxide hardly reaches down to the titanium oxide at the teeth surface to be bleached, a dental bleaching agent set consisting of two components is described. The first component is attached to teeth surface and irradiation of light is followed after the second component is contacted on the teeth surface. The first component consists of an organic solvent containing at least one of a titanium oxide, a nitrogen doped titanium oxide, and a titanium oxinitride having photocatalytic activities, and preferably one or more of a metal oxide, a metal salt, and a metal powder, a thickener and water. The second component consists of a compound that produces hydrogen peroxide in water, a thickener and a carrier.		
ST	titanium oxide oxinitride photocatalyst hydrogen peroxide dental bleaching		
IT	Light (irradiation with; two-component dental bleaching agent set employing photocatalytic and hydrogen peroxide reactions)		
IT	Catalysts (photochem.; two-component dental bleaching agent set employing photocatalytic and hydrogen peroxide reactions)		
IT	Metals, biological studies RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses) (powders; two-component dental bleaching agent set employing photocatalytic and hydrogen peroxide reactions)		
IT	Bleaching agents Thickening agents (two-component dental bleaching agent set employing photocatalytic and hydrogen peroxide reactions)		
IT	Apatite-group minerals Oxides (inorganic), biological studies Salts, biological studies RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses) (two-component dental bleaching agent set employing photocatalytic and hydrogen peroxide reactions)		
IT	Dentifrices (whitening; two-component dental bleaching agent set employing photocatalytic and hydrogen peroxide reactions)		
IT	13463-67-7, ST 01, biological studies RL: COS (Cosmetic use); RCT (Reactant); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)		

(ST 01; two-component dental bleaching agent set employing photocatalytic and hydrogen peroxide reactions)

IT 7727-37-9, Nitrogen, biological studies  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (titanium oxide doped with; two-component dental bleaching agent set employing photocatalytic and hydrogen peroxide reactions)

IT 124-43-6 7440-06-4, Platinum, biological studies 7722-84-1, Hydrogen peroxide, biological studies 12040-57-2, Iron chloride 37271-26-4, Titanium oxynitride 60842-32-2, Aerosil R972 76050-42-5, Carbopol 940 101659-01-2, Sodium magnesium silicate  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (two-component dental bleaching agent set employing photocatalytic and hydrogen peroxide reactions)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE  
 (1) G C Dental Ind Corp; EP 1393711 A 2004 HCAPLUS  
 (2) Ishibashi, T; EP 1192933 A 2002 HCAPLUS  
 (3) Kakuta, M; WO 02060401 A 2002 HCAPLUS  
 (4) Kakuta, M; EP 1356804 A 2003 HCAPLUS  
 (5) Nonami, T; EP 1250896 A 2002  
 (6) Nonami Toru; JP 11092351 A 1999 HCAPLUS  
 (7) Nonami Toru; EP 1048291 A 2000 HCAPLUS

IT 13463-67-7, ST 01, biological studies  
 RL: COS (Cosmetic use); RCT (Reactant); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)  
 (ST 01; two-component dental bleaching agent set employing photocatalytic and hydrogen peroxide reactions)

RN 13463-67-7 HCAPLUS

CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)

==Ti==O

IT 7727-37-9, Nitrogen, biological studies  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (titanium oxide doped with; two-component dental bleaching agent set employing photocatalytic and hydrogen peroxide reactions)

RN 7727-37-9 HCAPLUS

CN Nitrogen (8CI, 9CI) (CA INDEX NAME)

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L49 ANSWER 6 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:181774 HCAPLUS

DN 140:204862

ED Entered STN: 05 Mar 2004

TI Photocatalytic bleaching agent for teeth containing titanium oxide

IN Yamaguchi, Shin; Sekiguchi, Toshihiro; Ikushima, Keisuke; Akahane, Shoji; Aoki, Koyu; Morikawa, Takeshi; Ohwaki, Takeshi; Taga, Yasunori

PA GC Corporation, Japan

SO Eur. Pat. Appl., 17 pp.  
 CODEN: EPXXDW

DT Patent

LA English

IC ICM A61K007-20  
 ICS A61K007-22

CC 62-7 (Essential Oils and Cosmetics)

## FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1393711	A2	20040303	EP 2003-18675	20030821 <--
	EP 1393711	A3	20040310		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	JP 2004083489	A2	20040318	JP 2002-247008	20020827 <--
	US 2004047816	A1	20040311	US 2003-644808	20030821 <--
PRAI	JP 2002-247008	A	20020827	<--	

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 1393711	ICM	A61K007-20
	ICS	A61K007-22
EP 1393711	ECLA	A61K008/29; A61Q011/00 <--
JP 2004083489	FTERM	4C083/AB051; 4C083/AB172; 4C083/AB241; 4C083/AB242; 4C083/AB372; 4C083/AB411; 4C083/AB412; 4C083/AC061; 4C083/AC102; 4C083/AC111; 4C083/AC122; 4C083/AC132; 4C083/AD042; 4C083/BB60; 4C083/CC41; 4C083/DD23; 4C083/DD27; 4C083/DD28; 4C083/EE03; 4C083/EE35 <--
US 2004047816	NCL	424/053.000
	ECLA	A61K008/29; A61Q011/00 <--
AB	A method for bleaching teeth comprises steps of applying a solution containing nitrogen-doped titanium oxide powder on a surface of teeth, and irradiating the applied part with light to bleach the teeth based on a photocatalytic action thus produced. A bleaching agent for teeth suitable for carrying out the method comprises a solution containing nitrogen-doped titanium oxide powder, in which the nitrogen-doped titanium oxide is preferably a photocatalytic substance having a Ti-O-N structure having a titanium oxide crystalline lattice containing nitrogen and exhibiting a photocatalytic action in a visible light region, the bleaching agent contains preferably 0.01 to 5% by weight of the nitrogen-doped titanium oxide powder having a sp. surface area of from 10 to 500 m <sup>2</sup> /g, the solution contains water and/or an alc. as a solvent, and the bleaching agent further contains preferably 0.5 to 20% by weight of a thickener, 1 to 20% by weight of hydrogen peroxide, and 2 to 45% by weight of urea peroxide.	
ST	titanium oxide nitrogen photocatalysis	
	bleaching dentifrice	
IT	Bleaching	
	Bleaching agents	
	Dentifrices	
	(photocatalytic bleaching agent for teeth containing nitrogen -doped titanium oxide powder)	
IT	Catalysis	
	(photochem.; photocatalytic bleaching agent for teeth containing nitrogen-doped titanium oxide powder)	
IT	124-43-6 7722-84-1, Hydrogen peroxide, biological studies	
	7727-37-9, Nitrogen, biological studies	
	13463-67-7, Titanium oxide, biological studies	
	RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)	
	(photocatalytic bleaching agent for teeth containing nitrogen -doped titanium oxide powder)	
IT	7727-37-9, Nitrogen, biological studies	
	13463-67-7, Titanium oxide, biological studies	
	RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)	
	(photocatalytic bleaching agent for teeth containing nitrogen -doped titanium oxide powder)	
RN	7727-37-9 HCAPLUS	
CN	Nitrogen (8CI, 9CI) (CA INDEX NAME)	

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RN 13463-67-7 HCAPLUS  
CN Titanium oxide (TiO<sub>2</sub>) (8CI, 9CI) (CA INDEX NAME)

O=Ti=O

L49 ANSWER 7 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 2003:855402 HCAPLUS  
DN 139:328432  
ED Entered STN: 31 Oct 2003  
TI Metal ion modified high surface area materials for odor removal and control  
IN MacDonald, John Gavin  
PA USA  
SO U.S. Pat. Appl. Publ., 12 pp.  
CODEN: USXXCO  
DT Patent  
LA English  
IC ICM A61L009-04  
ICS A61K009-14; A61K033-38; A61K009-70  
INCL 424443000; 424489000; 424046000; 442123000; 424618000  
CC 63-7 (Pharmaceuticals)  
Section cross-reference(s): 46, 59

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003203009	A1	20031030	US 2002-137052	20020430 <--
	CA 2482788	AA	20031113	CA 2003-2482788	20030304 <--
	WO 2003092885	A1	20031113	WO 2003-US6650	20030304 <--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	BR 2003009282	A	20050209	BR 2003-9282	20030304 <--
	EP 1503853	A1	20050209	EP 2003-716298	20030304 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
PRAI	US 2002-137052	A	20020430	<--	
	WO 2003-US6650	W	20030304		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2003203009	ICM	A61L009-04
	ICS	A61K009-14; A61K033-38; A61K009-70
	INCL	424443000; 424489000; 424046000; 442123000; 424618000
US 2003203009	NCL	424/443.000
	ECLA	A61L009/01; A61L015/18; A61L015/46; B01D053/02; B01J020/02; B01J020/32 <--
WO 2003092885	ECLA	A61L009/01; A61L015/18; A61L015/46; B01D053/02; B01J020/02; B01J020/32 <--

AB This invention relates to high surface area materials, such as nanoparticles, that are coated with metal ions. These modified

nanoparticles have active sites that bind various gases and/or odorous compds., thereby removing these compds. from a medium such as air or water. Metal ions are adsorbed onto the surface of the nanoparticle and bound strongly to the surface. By selection of the metal ion, specific gaseous compds. and/or odorous compds. can be targeted and removed efficiently and effectively from both aqueous phase and from the air. The modified nanoparticles are useful in numerous articles of manufacture for industrial and consumer use, such as diapers, feminine hygiene products, paper towels, aerosol spray, household cleaner, oral hygiene products, or filtering articles.

- ST metal ion modified nanoparticle odor removal sanitary article filter;  
household cleaner odor removal metal ion modified nanoparticle
- IT Sprays  
(aerosols; metal ion modified high surface area materials for odor  
removal and control)
- IT Filters  
(air, vent or face mask filters; metal ion modified high surface area  
materials for odor removal and control)
- IT Aldehydes, processes  
Ketones, processes  
RL: REM (Removal or disposal); PROC (Process)  
(aliphatic; metal ion modified high surface area materials for odor  
removal and control)
- IT Nanoparticles  
(coated with metal ions; metal ion modified high surface area materials  
for odor removal and control)
- IT Cleaning solvents  
(household; metal ion modified high surface area materials for odor  
removal and control)
- IT Deodorization  
Diapers  
Zeta potential  
(metal ion modified high surface area materials for odor removal and  
control)
- IT Alcohols, processes  
Amines, processes  
Carboxylic acids, processes  
Disulfides  
Sulfides, processes  
Terpenes, processes  
Thiols, processes  
Trisulfides  
RL: REM (Removal or disposal); PROC (Process)  
(metal ion modified high surface area materials for odor removal and  
control)
- IT Hygiene  
(oral, products; metal ion modified high surface area  
materials for odor removal and control)
- IT Odor and Odorous substances  
(removal of; metal ion modified high surface area materials for odor  
removal and control)
- IT Medical goods  
(sanitary napkins; metal ion modified high surface area materials for  
odor removal and control)
- IT Medical goods  
(tampons; metal ion modified high surface area materials for odor  
removal and control)
- IT Paper  
(towels; metal ion modified high surface area materials for odor  
removal and control)
- IT 14333-13-2, Permanganate ion 14701-21-4, Silver ion, uses 14998-27-7,  
Chlorite ion 15092-81-6, Persulfate ion 15158-11-9, uses 15438-31-0,  
Ferrous ion, uses 20074-52-6, Ferric ion, uses 65098-52-4, Gold ion  
RL: TEM (Technical or engineered material use); USES (Uses)  
(coated onto nanoparticle; metal ion modified high surface area  
materials for odor removal and control)

IT 7631-86-9, Silica, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (including colloidal, nanoparticle material; metal ion modified high surface area materials for odor removal and control)

IT 64-19-7, Acetic acid, processes 66-25-1, Hexanal 74-85-1, Ethylene, processes 78-93-3, 2-Butanone, processes 79-09-4, Propanoic acid, processes 98-02-2, Furfuryl mercaptan 99-49-0, Carvone 107-87-9, 2-Pentanone 111-71-7, Heptanal 123-19-3, 4-Heptanone 503-74-2, Isovaleric acid 7664-41-7, Ammonia, processes 7704-34-9D, Sulfur, compds. 7727-37-9D, Nitrogen, compds.  
 RL: REM (Removal or disposal); PROC (Process)  
 (metal ion modified high surface area materials for odor removal and control)

IT 1309-48-4, Magnesium oxide, uses 1314-13-2, Zinc oxide, uses 1332-37-2, Iron oxide, uses 1344-28-1, Alumina, uses 1344-70-3, Copper oxide 7440-57-5, Gold, uses 9003-53-6, Polystyrene 13463-67-7, Titanium dioxide, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (nanoparticle material; metal ion modified high surface area materials for odor removal and control)

IT 7727-37-9D, Nitrogen, compds.  
 RL: REM (Removal or disposal); PROC (Process)  
 (metal ion modified high surface area materials for odor removal and control)

RN 7727-37-9 HCAPLUS  
 CN Nitrogen (8CI, 9CI) (CA INDEX NAME)

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IT 13463-67-7, Titanium dioxide, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (nanoparticle material; metal ion modified high surface area materials for odor removal and control)

RN 13463-67-7 HCAPLUS  
 CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)

O=Ti=O

L49 ANSWER 8 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2001:291943 HCAPLUS  
 DN 135:129460  
 ED Entered STN: 25 Apr 2001  
 TI Photooxidative N-demethylation of methylene blue in aqueous TiO2 dispersions under UV irradiation  
 AU Zhang, T.; Oyama, T.; Aoshima, A.; Hidaka, H.; Zhao, J.; Serpone, N.  
 CS Frontier Research Center for the Global Environmental Protection, 2-1-1 Hodokubo, Meisei University, Tokyo, Hino-shi, 191-8506, Japan  
 SO Journal of Photochemistry and Photobiology, A: Chemistry (2001), 140(2), 163-172  
 CODEN: JPPCEJ; ISSN: 1010-6030  
 PB Elsevier Science S.A.  
 DT Journal  
 LA English  
 CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 22, 67  
 AB Methylene blue (MB) is a representative of a class of dyestuff resistant to biodegrdn. Its decomposition was examined in aqueous TiO2 dispersions under UV illumination to assess the influence of temperature, pH, concentration of

dissolved O (DOC), initial concentration of MB, and light intensity on the kinetics of decomposition. Hypsochromic effects (i.e. blue shifts of spectral bands) resulting from N-demethylation of the dimethylamino group in MB occurs concomitantly with oxidative degradation. The maximum quantity of MB adsorbed on TiO<sub>2</sub>, and the kinetics of degradation of MB and of total organic C (TOC) removal were also measured at constant pH 4. Photobleaching of MB solns. takes place at low DOCs and is caused by a reversible reductive process involving photogenerated electrons on TiO<sub>2</sub>. The rate of degradation of MB remains fairly constant regardless of whether the dispersion was purged with O prior to irradiation or with air during the light irradiation period. The photocatalytic process depends on light intensity, but not on the total light energy absorbed. The photoreaction followed pseudo-first-order kinetics even at high MB concns. (0.3 mM). The temperature dependence of the photodegradn. kinetics was assessed (E<sub>a</sub> = 8.9 kJ/mol), as well as the relative photonic efficiency,  $\xi_r$ , relative to phenol (0.48).

- ST photooxidative atomic nitrogen demethylation methylene blue aq titanium oxide; dispersion UV irradiation demethylation methylene blue aq titanium oxide
- IT Reaction kinetics  
(first-order; photooxidative N-demethylation of methylene blue in aqueous TiO<sub>2</sub> dispersions under UV irradiation)
- IT Demethylation  
Dyes  
Hypsochromic effect  
Photochemical bleaching  
Photolysis  
Photolysis kinetics  
UV radiation  
(photooxidative N-demethylation of methylene blue in aqueous TiO<sub>2</sub> dispersions under UV irradiation)
- IT 61-73-4, Methylene blue 13463-67-7, Titania, reactions  
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)  
(photooxidative N-demethylation of methylene blue in aqueous TiO<sub>2</sub> dispersions under UV irradiation)

RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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- (2) Ganesh, R; Water Res 1994, V28, P1367 HCAPLUS
- (3) Harry, P; J Chem Soc Faraday Trans 1 1983, V79, P291
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- (26) Tang, W; Chemosphere 1995, V31, P4157 HCAPLUS
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 (30) Weber, E; Environ Sci Technol 1995, V29, P113  
 (31) Windholz, M; The Merck Index 10th Edition 1983  
 (32) Wu, T; J Phys Chem B 1998, V102, P5845 HCAPLUS  
 (33) Zhao, J; Langmuir 1989, V9, P1646  
 IT 13463-67-7, Titania, reactions  
 RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC  
 (Process); RACT (Reactant or reagent)  
 (photooxidative N-demethylation of methylene blue in aqueous TiO2  
 dispersions under UV irradiation)  
 RN 13463-67-7 HCAPLUS  
 CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)

O=Ti=O

L49 ANSWER 9 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2000:725425 HCAPLUS  
 DN 133:300959  
 ED Entered STN: 13 Oct 2000  
 TI Oral composition with an improved teeth whitening effect containing a  
 peroxy compound and a catalyst  
 IN Joiner, Andrew; Thorntwhaite, David William  
 PA Unilever N. V., Neth.; Unilever PLC; Hindustan Lever Ltd.  
 SO PCT Int. Appl., 26 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 IC ICM A61K007-20  
 ICS A61K007-16  
 CC 62-7 (Essential Oils and Cosmetics)  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000059461	A1	20001012	WO 2000-EP2858	20000331 <--
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1165029	A1	20020102	EP 2000-914175	20000331 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
BR 2000009452	A	20020108	BR 2000-9452	20000331 <--
PRAI EP 1999-302582	A	19990401 <--		
WO 2000-EP2858	W	20000331 <--		

# CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2000059461	ICM	A61K007-20
	ICS	A61K007-16
WO 2000059461	ECLA	A61K008/25; A61Q011/00 <--
AB The invention provides an improved teeth whitening oral care composition containing a peroxy compound and a catalyst which is an iron compound containing pentadentate nitrogen-containing ligands in which the H-atom of the C-H group of the methylamine moiety, present in the ligands is substituted by other groups. A typical example is FeMeN4Py (I). I removed the color of tea-stained and saliva-coated cotton. A dental paste contained sorbitol 33.60, abrasive silica 30.00, sodium bicarbonate 10.00, PEG-32 5.0,		



thickening silica 2.00, flavors 1.00, sodium lauryl sulfate 2.98, cellulose gum 0.80, sodium saccharin 0.54, sodium fluoride 0.44, titanium dioxide 0.33, I 0.25, and water q.s. 100%.

ST oral teeth whitening peroxy compd catalyst; dental paste catalyst peroxy compd

IT Dentifrices  
(gels; oral composition with improved teeth whitening effect containing peroxy compound and catalyst)

IT Catalysts  
Dentifrices  
(oral composition with improved teeth whitening effect containing peroxy compound and catalyst)

IT Peroxides, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(oral composition with improved teeth whitening effect containing peroxy compound and catalyst)

IT 7439-89-6D, Iron, reaction with MeN4Py, biological studies 7722-84-1, Hydrogenperoxide, biological studies 223504-10-7D, reaction with iron  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(oral composition with improved teeth whitening effect containing peroxy compound and catalyst)

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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- (2) Anon; PATENT ABSTRACTS OF JAPAN 1999, V1999(10)
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- (6) Mitsui Chem Inc; JP 11057488 A 1999 HCAPLUS
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- (8) Unilever Nv; WO 9534628 A 1995 HCAPLUS
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L49 ANSWER 10 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1998:183774 HCAPLUS

DN 128:263069

ED Entered STN: 28 Mar 1998

TI Irradiation temperature dependence on defects formations in insulating crystals

AU Nakagawa, M.; Itoh, H.; Nakanishi, S.; Okada, M.; Atobe, K.

CS Fac. Educ. Kagawa Univ., Japan

SO Kyoto Daigaku Genshiro Jikkensho Gakujutsu Koenkai Hobunshu (1998), 32, 217-222

CODEN: KDGHEI; ISSN: 0917-1746

PB Kyoto Daigaku Genshiro Jikkensho

DT Journal

LA Japanese

CC 71-12 (Nuclear Technology)

Section cross-reference(s): 73

AB Formation efficiency of lattice defects in oxide single crystals are known to depend strongly on irradiation temperature Some oxide single crystals were irradiated at several temps. using the low temperature irradiation facility of Kyoto University Reactor (KUR-LTL), such as 20, 50, 100, 150, 200 and about 300 K. After irradiations, samples are stored in liquid nitrogen for several months for the radioactivity to decay and the optical absorption spectra at liquid nitrogen temps. and also thermal breaching upon heating the samples was investigated. The differences between samples, including ionic oxides and semiconductors, is compared.

ST irradsn temp defect formation insulating crystal; neutron irradsn defect formation insulating crystal; oxide single crystal irradsn defect formation

IT F-centers  
(F+; irradiation temperature dependence of defect formation in insulating crystals)

IT Absorption spectra  
 Annealing  
 Crystal defects  
 F-centers  
 (irradiation temperature dependence of defect formation in insulating crystals)

IT Bleaching  
 (thermal; irradiation temperature dependence of defect formation in insulating crystals)

IT 7439-89-6, Iron, uses 7439-96-5, Manganese, uses  
 RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)  
 (dopant; irradiation temperature dependence of defect formation in insulating magnesia crystals)

IT 12586-31-1, Neutron  
 RL: PEP (Physical, engineering or chemical process); PROC (Process)  
 (irradiation temperature dependence of defect formation in insulating crystals)

IT 1309-48-4, Magnesia, uses 1344-28-1, Alumina, uses 13463-67-7, Titania, uses  
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (irradiation temperature dependence of defect formation in insulating crystals)

IT 13463-67-7, Titania, uses  
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (irradiation temperature dependence of defect formation in insulating crystals)

RN 13463-67-7 HCAPLUS  
 CN Titanium oxide (TiO<sub>2</sub>) (8CI, 9CI) (CA INDEX NAME)

O=Ti=O

L49 ANSWER 11 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1997:744496 HCAPLUS  
 DN 127:339121  
 ED Entered STN: 27 Nov 1997  
 TI Solution-Phase Grafting of Titanium Dioxide onto the Pore Surface of Mesoporous Silicates: Synthesis and Structural Characterization  
 AU Aronson, Blake J.; Blanford, Christopher F.; Stein, Andreas  
 CS Department of Chemistry, University of Minnesota, Minneapolis, MN, 55455, USA  
 SO Chemistry of Materials (1997), 9(12), 2842-2851  
 CODEN: CMATEX; ISSN: 0897-4756  
 PB American Chemical Society  
 DT Journal  
 LA English  
 CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 67  
 AB Titanium dioxide, a large-bandgap semiconductor and versatile photocatalyst, has been grafted onto the pore surface of MCM-41 and FSM-16 (a mesoporous material derived from kanemite) by reacting TiCl<sub>4</sub> in hexanes with the as-synthesized mesostructured silicate. The products have been extensively characterized by powder XRD, TEM, SEM, EDS, XPS, N<sub>2</sub> adsorption, SANS contrast matching, solid-state <sup>1</sup>H MAS NMR, IR, and UV-vis spectroscopies. It was found that titania forms well-dispersed isolated (TiO<sub>2</sub>)<sub>n</sub> clusters (n appr. 30-70) within the channel structure. These are attached to the silicate walls via Si-O-Ti bonds. A minor second phase consisting of anatase crystallites ca. 100-250 Å in diameter on the external surface of the mesoporous silicate crystals was sometimes obtained. It is concluded that an organic moiety, such as the surfactant present in the pores, or a phys. constraint, such as the pore walls, is necessary to prevent the creation of large TiO<sub>2</sub> agglomerates and enable the formation of nanosized TiO<sub>2</sub>

- clusters. The titania-grafted MCM-41 samples exhibited good catalytic activity for photobleaching of rhodamine-6G and for oxidation of  $\alpha$ -terpineol; however, product selectivity was low.
- ST soln phase grafting photocatalyst titanium dioxide;  
mesoporous silicate nanosize titania cluster photocatalyst; titanium tetrachloride mesostructure silicate titania catalyst
- IT Clusters  
(formation of nanosized TiO<sub>2</sub> clusters during solution-phase grafting of photocatalyst TiO<sub>2</sub> onto pore surface of mesoporous silicates)
- IT Crystallites  
(minor second phase of anatase crystallites formed during solution-phase grafting of photocatalyst TiO<sub>2</sub> onto pore surface of mesoporous silicates)
- IT Adsorption  
Isotherms  
(nitrogen adsorption isotherms to study nanosized photocatalyst TiO<sub>2</sub> clusters grafted onto internal surface of mesoporous supports)
- IT Photochemical bleaching  
Photolysis  
(photobleaching of rhodamine-6G using nanosized photocatalyst TiO<sub>2</sub> clusters grafted onto internal surface of mesoporous supports)
- IT Catalysts  
(photochem.; solution-phase grafting of photocatalyst TiO<sub>2</sub> onto pore surface of mesoporous silicates by reacting TiCl<sub>4</sub> in hexanes with mesostructured silicate)
- IT Oxidation, photochemical  
(photooxidn. of  $\alpha$ -terpineol using nanosized photocatalyst TiO<sub>2</sub> clusters grafted onto internal surface of mesoporous supports)
- IT MCM zeolites  
RL: CAT (Catalyst use); USES (Uses)  
(solution-phase grafting of photocatalyst TiO<sub>2</sub> onto pore surface of mesoporous silicates by reacting TiCl<sub>4</sub> in hexanes with mesostructured silicate)
- IT Silicates, processes  
RL: PEP (Physical, engineering or chemical process); PROC (Process)  
(solution-phase grafting of photocatalyst TiO<sub>2</sub> onto pore surface of mesoporous silicates by reacting TiCl<sub>4</sub> in hexanes with mesostructured silicate)
- IT Surfactants  
(surfactants to prevent agglomerates and enable formation of nanosized TiO<sub>2</sub> clusters during solution-phase grafting of photocatalyst TiO<sub>2</sub> onto pore surface of mesoporous silicates)
- IT 7727-37-9, Nitrogen, processes  
RL: PEP (Physical, engineering or chemical process); PROC (Process)  
(nitrogen adsorption isotherms to study nanosized photocatalyst TiO<sub>2</sub> clusters grafted onto internal surface of mesoporous supports)
- IT 989-38-8, Rhodamine-6G  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(photobleaching of rhodamine-6G using nanosized photocatalyst TiO<sub>2</sub> clusters grafted onto internal surface of mesoporous supports)
- IT 98-55-5,  $\alpha$ -Terpineol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(photooxidn. of  $\alpha$ -terpineol using nanosized photocatalyst TiO<sub>2</sub> clusters grafted onto internal surface of mesoporous supports)
- IT 1317-70-0, Anatase 13463-67-7, Titanium Dioxide, processes  
RL: CAT (Catalyst use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)  
(solution-phase grafting of photocatalyst TiO<sub>2</sub> onto pore surface

- of mesoporous silicates by reacting  $\text{TiCl}_4$  in hexanes with mesostructured silicate)
- IT 7631-86-9, FSM-16, processes  
 RL: PEP (Physical, engineering or chemical process); PROC (Process)  
 (solution-phase grafting of photocatalyst  $\text{TiO}_2$  onto pore surface of mesoporous silicates by reacting  $\text{TiCl}_4$  in hexanes with mesostructured silicate)
- IT 7550-45-0, Titanium chloride ( $\text{TiCl}_4$ ), reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (solution-phase grafting of photocatalyst  $\text{TiO}_2$  onto pore surface of mesoporous silicates by reacting  $\text{TiCl}_4$  in hexanes with mesostructured silicate)
- IT 1317-80-2, Rutile  
 RL: CAT (Catalyst use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)  
 (solution-phase grafting of photocatalyst titanium dioxide onto pore surface of mesoporous silicates by reacting  $\text{TiCl}_4$  in hexanes with mesostructured silicate)
- IT 7631-86-9, Ultrasil VN 3SP, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (solution-phase grafting of photocatalyst titanium dioxide onto pore surface of mesoporous silicates by reacting  $\text{TiCl}_4$  in hexanes with mesostructured silicate)
- IT 1344-09-8, Sodium silicate  
 RL: PEP (Physical, engineering or chemical process); PROC (Process)  
 (solution-phase grafting of photocatalyst titanium dioxide onto pore surface of mesoporous silicates by reacting  $\text{TiCl}_4$  in hexanes with mesostructured silicate)
- IT 57-09-0, CTAB 112-02-7, CTAC 1119-94-4, DTAB  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (surfactants to prevent agglomerates and enable formation of nanosized  $\text{TiO}_2$  clusters during solution-phase grafting of photocatalyst  $\text{TiO}_2$  onto pore surface of mesoporous silicates)

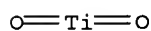
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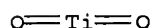
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- IT 7727-37-9, Nitrogen, processes  
 RL: PEP (Physical, engineering or chemical process); PROC (Process)  
 (nitrogen adsorption isotherms to study nanosized  
 photocatalyst TiO<sub>2</sub> clusters grafted onto internal surface of  
 mesoporous supports)
- RN 7727-37-9 HCAPLUS  
 CN Nitrogen (8CI, 9CI) (CA INDEX NAME)

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- IT 1317-70-0, Anatase 13463-67-7, Titanium  
 Dioxide, processes  
 RL: CAT (Catalyst use); PEP (Physical, engineering or chemical process);  
 PROC (Process); USES (Uses)  
 (solution-phase grafting of photocatalyst TiO<sub>2</sub> onto pore surface  
 of mesoporous silicates by reacting TiCl<sub>4</sub> in hexanes with  
 mesostructured silicate)
- RN 1317-70-0 HCAPLUS  
 CN Anatase (TiO<sub>2</sub>) (9CI) (CA INDEX NAME)



- RN 13463-67-7 HCAPLUS  
 CN Titanium oxide (TiO<sub>2</sub>) (8CI, 9CI) (CA INDEX NAME)

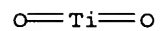


- IT 1317-80-2, Rutile  
 RL: CAT (Catalyst use); PEP (Physical, engineering or chemical process);  
 PROC (Process); USES (Uses)  
 (solution-phase grafting of photocatalyst titanium

dioxide onto pore surface of mesoporous silicates by reacting  
TiCl<sub>4</sub> in hexanes with mesostructured silicate)

RN 1317-80-2 HCAPLUS

CN Rutile (TiO<sub>2</sub>) (9CI) (CA INDEX NAME)



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